

## SEQUENCE LISTING

&lt;110&gt; EXELIXIS, INC.

&lt;120&gt; MBMs AS MODIFIERS OF BRANCHING MORPHOGENESIS AND METHODS OF USE

&lt;130&gt; EX03-075C-PC

&lt;150&gt; US 60/420,554

&lt;151&gt; 2002-10-23

&lt;150&gt; US 60/436,941

&lt;151&gt; 2002-12-30

&lt;160&gt; 62

&lt;170&gt; PatentIn version 3.2

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 35 40 45

Lys Leu Ser Ala Arg Asp His Gln Lys Leu Glu Arg Glu Ala Arg Ile  
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Cys Arg Leu Leu Lys His Pro Asn Ile Val Arg Leu His Asp Ser Ile  
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Ser Glu Glu Gly Phe His Tyr Leu Val Phe Asp Leu Val Thr Gly Gly  
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Glu Leu Phe Glu Asp Ile Val Ala Arg Glu Tyr Tyr Ser Glu Ala Asp  
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Gln His Asp Ile Val His Arg Asp Leu Lys Pro Glu Asn Leu Leu Leu  
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Ala Ser Lys Cys Lys Gly Ala Ala Val Lys Leu Ala Asp Phe Gly Leu  
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Ala Ile Glu Val Gln Gly Glu Gln Gln Ala Trp Phe Gly Phe Ala Gly  
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Thr Pro Gly Tyr Leu Ser Pro Glu Val Leu Arg Lys Asp Pro Tyr Gly  
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Lys Pro Val Asp Ile Trp Ala Cys Gly Val Ile Leu Tyr Ile Leu Leu  
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Val Gly Tyr Pro Pro Phe Trp Asp Glu Asp Gln His Lys Leu Tyr Gln  
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Lys Ala Arg His Thr Leu Leu Glu Pro Glu Val Arg Tyr Tyr Leu Arg  
115 120 125

Gln Ile Leu Ser Gly Leu Lys Tyr Leu His Gln Arg Gly Ile Leu His  
130 135 140

Arg Asp Leu Lys Leu Gly Asn Phe Phe Ile Thr Glu Asn Met Glu Leu  
145 150 155 160

Lys Val Gly Asp Phe Gly Leu Ala Ala Arg Leu Glu Pro Pro Glu Gln  
 165 170 175  
 Arg Lys Lys Thr Ile Cys Gly Thr Pro Asn Tyr Val Ala Pro Glu Val  
 180 185 190  
 Leu Leu Arg Gln Gly His Gly Pro Glu Ala Asp Val Trp Ser Leu Gly  
 195 200 205  
 Cys Val Met Tyr Thr Leu Leu Cys Gly Ser Pro Pro Phe Glu Thr Ala  
 210 215 220  
 Asp Leu Lys Glu Thr Tyr Arg Cys Ile Lys Gln Val His Tyr Thr Leu  
 225 230 235 240  
 Pro Ala Ser Leu Ser Leu Pro Ala Arg Gln Leu Leu Ala Ala Ile Leu  
 245 250 255  
 Arg Ala Ser Pro Arg Asp Arg Pro Ser Ile Asp Gln Ile Leu Arg His  
 260 265 270  
 Asp Phe Phe Thr Lys Gly Tyr Thr Pro Asp Arg Leu Pro Ile Ser Ser  
 275 280 285  
 Cys Val Thr Val Pro Asp Leu Thr Pro Pro Asn Pro Ala Arg Ser Leu  
 290 295 300  
 Phe Ala Lys Val Thr Lys Ser Leu Phe Gly Arg Lys Lys Lys Ser Lys  
 305 310 315 320  
 Asn His Ala Gln Glu Arg Asp Glu Val Ser Gly Leu Val Ser Gly Leu  
 325 330 335  
 Met Arg Thr Ser Val Gly His Gln Asp Ala Arg Pro Glu Ala Pro Ala  
 340 345 350  
 Ala Ser Gly Pro Ala Pro Val Ser Leu Val Glu Thr Ala Pro Glu Asp  
 355 360 365  
 Ser Ser Pro Arg Gly Thr Leu Ala Ser Ser Gly Asp Gly Phe Glu Glu  
 370 375 380  
 Gly Leu Thr Val Ala Thr Val Val Glu Ser Ala Leu Cys Ala Leu Arg  
 385 390 395 400  
 Asn Cys Ile Ala Phe Met Pro Pro Ala Glu Gln Asn Pro Ala Pro Leu

405										410										415									
Ala	Gln	Pro	Glu	Pro	Leu	Val	Trp	Val	Ser	Lys	Trp	Val	Asp	Tyr	Ser														
			420										425						430										
Asn	Lys	Phe	Gly	Phe	Gly	Tyr	Gln	Leu	Ser	Ser	Arg	Arg	Val	Ala	Val														
		435					440						445																
Leu	Phe	Asn	Asp	Gly	Thr	His	Met	Ala	Leu	Ser	Ala	Asn	Arg	Lys	Thr														
	450					455					460																		
Val	His	Tyr	Asn	Pro	Thr	Ser	Thr	Lys	His	Phe	Ser	Phe	Ser	Val	Gly														
465					470					475					480														
Ala	Val	Pro	Arg	Ala	Leu	Gln	Pro	Gln	Leu	Gly	Ile	Leu	Arg	Tyr	Phe														
				485					490					495															
Ala	Ser	Tyr	Met	Glu	Gln	His	Leu	Met	Lys	Gly	Gly	Asp	Leu	Pro	Ser														
			500					505					510																
Val	Glu	Glu	Val	Glu	Val	Pro	Ala	Pro	Pro	Leu	Leu	Leu	Gln	Trp	Val														
	515						520					525																	
Lys	Thr	Asp	Gln	Ala	Leu	Leu	Met	Leu	Phe	Ser	Asp	Gly	Thr	Val	Gln														
	530					535					540																		
Val	Asn	Phe	Tyr	Gly	Asp	His	Thr	Lys	Leu	Ile	Leu	Ser	Gly	Trp	Glu														
545					550					555					560														
Pro	Leu	Leu	Val	Thr	Phe	Val	Ala	Arg	Asn	Arg	Ser	Ala	Cys	Thr	Tyr														
				565					570					575															
Leu	Ala	Ser	His	Leu	Arg	Gln	Leu	Gly	Cys	Ser	Pro	Asp	Leu	Arg	Gln														
			580					585					590																
Arg	Leu	Arg	Tyr	Ala	Leu	Arg	Leu	Leu	Arg	Asp	Arg	Ser	Pro	Ala															
	595						600					605																	
<210>	34																												
<211>	421																												
<212>	PRT																												
<213>	Homo sapiens																												
<400>	34																												
Met	Ala	Ser	Ser	Ser	Val	Pro	Pro	Ala	Thr	Val	Ser	Ala	Ala	Thr	Ala														
1				5					10					15															



Gly Pro Gly Pro Gly Phe Gly Phe Ala Ser Lys Thr Lys Lys Lys His  
 20 25 30  
 Phe Val Gln Gln Lys Val Lys Val Phe Arg Ala Ala Asp Pro Leu Val  
 35 40 45  
 Gly Val Phe Leu Trp Gly Val Ala His Ser Ile Asn Glu Leu Ser Gln  
 50 55 60  
 Val Pro Pro Pro Val Met Leu Leu Pro Asp Asp Phe Lys Ala Ser Ser  
 65 70 75 80  
 Lys Ile Lys Val Asn Asn His Leu Phe His Arg Glu Asn Leu Pro Ser  
 85 90 95  
 His Phe Lys Phe Lys Glu Tyr Cys Pro Gln Val Phe Arg Asn Leu Arg  
 100 105 110  
 Asp Arg Phe Gly Ile Asp Asp Gln Asp Tyr Leu Val Ser Leu Thr Arg  
 115 120 125  
 Asn Pro Pro Ser Glu Ser Glu Gly Ser Asp Gly Arg Phe Leu Ile Ser  
 130 135 140  
 Tyr Asp Arg Thr Leu Val Ile Lys Glu Val Ser Ser Glu Asp Ile Ala  
 145 150 155 160  
 Asp Met His Ser Asn Leu Ser Asn Tyr His Gln Tyr Ile Val Lys Cys  
 165 170 175  
 His Gly Asn Thr Leu Leu Pro Gln Phe Leu Gly Met Tyr Arg Val Ser  
 180 185 190  
 Val Asp Asn Glu Asp Ser Tyr Met Leu Val Met Arg Asn Met Phe Ser  
 195 200 205  
 His Arg Leu Pro Val His Arg Lys Tyr Asp Leu Lys Gly Ser Leu Val  
 210 215 220  
 Ser Arg Glu Ala Ser Asp Lys Glu Lys Val Lys Glu Leu Pro Thr Leu  
 225 230 235 240  
 Arg Asp Met Asp Phe Leu Asn Lys Asn Gln Lys Val Tyr Ile Gly Glu  
 245 250 255  
 Glu Glu Lys Lys Ile Phe Leu Glu Lys Leu Lys Arg Asp Val Glu Phe  
 260 265 270

Leu Val Gln Leu Lys Ile Met Asp Tyr Ser Leu Leu Leu Gly Ile His  
 275 280 285

Asp Ile Ile Arg Gly Ser Glu Pro Glu Glu Glu Ala Pro Val Arg Glu  
 290 295 300

Asp Glu Ser Glu Val Asp Gly Asp Cys Ser Leu Thr Gly Pro Pro Ala  
 305 310 315 320

Leu Val Gly Ser Tyr Gly Thr Ser Pro Glu Gly Ile Gly Gly Tyr Ile  
 325 330 335

His Ser His Arg Pro Leu Gly Pro Gly Glu Phe Glu Ser Phe Ile Asp  
 340 345 350

Val Tyr Ala Ile Arg Ser Ala Glu Gly Ala Pro Gln Lys Glu Val Tyr  
 355 360 365

Phe Met Gly Leu Ile Asp Ile Leu Thr Gln Tyr Asp Ala Lys Lys Lys  
 370 375 380

Ala Ala His Ala Ala Lys Thr Val Lys His Gly Ala Gly Ala Glu Ile  
 385 390 395 400

Ser Thr Val His Pro Glu Gln Tyr Ala Lys Arg Phe Leu Asp Phe Ile  
 405 410 415

Thr Asn Ile Phe Ala  
 420

<210> 35  
 <211> 574  
 <212> PRT  
 <213> Homo sapiens

<400> 35

Met Arg Asp Pro Gly Ala Ala Ala Pro Leu Ser Ser Leu Gly Leu Cys  
 1 5 10 15

Ala Leu Val Leu Ala Leu Leu Gly Ala Leu Ser Ala Gly Ala Gly Ala  
 20 25 30

Gln Pro Tyr His Gly Glu Lys Gly Ile Ser Val Pro Asp His Gly Phe  
 35 40 45

Cys Gln Pro Ile Ser Ile Pro Leu Cys Thr Asp Ile Ala Tyr Asn Gln

50	55	60
Thr Ile Leu Pro Asn Leu Leu Gly His Thr Asn Gln Glu Asp Ala Gly		
65	70	75 80
Leu Glu Val His Gln Phe Tyr Pro Leu Val Lys Val Gln Cys Ser Pro		
	85	90 95
Glu Leu Arg Phe Phe Leu Cys Ser Met Tyr Ala Pro Val Cys Thr Val		
	100	105 110
Leu Asp Gln Ala Ile Pro Pro Cys Arg Ser Leu Cys Glu Arg Ala Arg		
	115	120 125
Gln Gly Cys Glu Ala Leu Met Asn Lys Phe Gly Phe Gln Trp Pro Glu		
	130	135 140
Arg Leu Arg Cys Glu Asn Phe Pro Val His Gly Ala Gly Glu Ile Cys		
145	150	155 160
Val Gly Gln Asn Thr Ser Asp Gly Ser Gly Gly Pro Gly Gly Gly Pro		
	165	170 175
Thr Ala Tyr Pro Thr Ala Pro Tyr Leu Pro Asp Leu Pro Phe Thr Ala		
	180	185 190
Leu Pro Pro Gly Ala Ser Asp Gly Arg Gly Arg Pro Ala Phe Pro Phe		
	195	200 205
Ser Cys Pro Arg Gln Leu Lys Val Pro Pro Tyr Leu Gly Tyr Arg Phe		
	210	215 220
Leu Gly Glu Arg Asp Cys Gly Ala Pro Cys Glu Pro Gly Arg Ala Asn		
225	230	235 240
Gly Leu Met Tyr Phe Lys Glu Glu Glu Arg Arg Phe Ala Arg Leu Trp		
	245	250 255
Val Gly Val Trp Ser Val Leu Cys Cys Ala Ser Thr Leu Phe Thr Val		
	260	265 270
Leu Thr Tyr Leu Val Asp Met Arg Arg Phe Ser Tyr Pro Glu Arg Pro		
	275	280 285
Ile Ile Phe Leu Ser Gly Cys Tyr Phe Met Val Ala Val Ala His Val		
	290	295 300

Ala Gly Phe Leu Leu Glu Asp Arg Ala Val Cys Val Glu Arg Phe Ser  
 305 310 315 320

Asp Asp Gly Tyr Arg Thr Val Ala Gln Gly Thr Lys Lys Glu Gly Cys  
 325 330 335

Thr Ile Leu Phe Met Val Leu Tyr Phe Phe Gly Met Ala Ser Ser Ile  
 340 345 350

Trp Trp Val Ile Leu Ser Leu Thr Trp Phe Leu Ala Ala Gly Met Lys  
 355 360 365

Trp Gly His Glu Ala Ile Glu Ala Asn Ser Gln Tyr Phe His Leu Ala  
 370 375 380

Ala Trp Ala Val Pro Ala Val Lys Thr Ile Thr Ile Leu Ala Met Gly  
 385 390 395 400

Gln Val Asp Gly Asp Leu Leu Ser Gly Val Cys Tyr Val Gly Leu Ser  
 405 410 415

Ser Val Asp Ala Leu Arg Gly Phe Val Leu Ala Pro Leu Phe Val Tyr  
 420 425 430

Leu Phe Ile Gly Thr Ser Phe Leu Leu Ala Gly Phe Val Ser Leu Phe  
 435 440 445

Arg Ile Arg Thr Ile Met Lys His Asp Gly Thr Lys Thr Glu Lys Leu  
 450 455 460

Glu Lys Leu Met Val Arg Ile Gly Val Phe Ser Val Leu Tyr Thr Val  
 465 470 475 480

Pro Ala Thr Ile Val Leu Ala Cys Tyr Phe Tyr Glu Gln Ala Phe Arg  
 485 490 495

Glu His Trp Glu Arg Thr Trp Leu Leu Gln Thr Cys Lys Ser Tyr Ala  
 500 505 510

Val Pro Cys Pro Pro Gly His Phe Pro Pro Met Ser Pro Asp Phe Thr  
 515 520 525

Val Phe Met Ile Lys Tyr Leu Met Thr Met Ile Val Gly Ile Thr Thr  
 530 535 540

Gly Phe Trp Ile Trp Ser Gly Lys Thr Leu Gln Ser Trp Arg Arg Phe

560

Thr Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val  
 195 200 205

Arg Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala  
 210 215 220

Pro Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val  
 225 230 235 240

Trp Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile  
 245 250 255

Phe Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val  
 260 265 270

Leu Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr  
 275 280 285

Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val  
 290 295 300

Phe Arg Pro Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Arg Leu  
 305 310 315 320

Leu Glu Tyr Thr Pro Thr Ala Arg Leu Thr Pro Leu Glu Ala Cys Ala  
 325 330 335

His Ser Phe Phe Asp Glu Leu Arg Asp Pro Asn Val Lys His Pro Asn  
 340 345 350

Gly Arg Asp Thr Pro Ala Leu Phe Asn Phe Thr Thr Gln Glu Leu Ser  
 355 360 365

Ser Asn Pro Pro Leu Ala Thr Ile Leu Ile Pro Pro His Ala Arg Ile  
 370 375 380

Gln Ala Ala Ala Ser Thr Pro Thr Asn Ala Thr Ala Ala Ser Asp Ala  
 385 390 395 400

Asn Thr Gly Asp Arg Gly Gln Thr Asn Asn Ala Ala Ser Ala Ser Ala  
 405 410 415

Ser Asn Ser Thr  
 420

<210> 37  
 <211> 1215

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 37

Met Ala Ser Gln Val Leu Val Tyr Pro Pro Tyr Val Tyr Gln Thr Gln  
 1 5 10 15

Ser Ser Ala Phe Cys Ser Val Lys Lys Leu Lys Val Glu Pro Ser Ser  
 20 25 30

Cys Val Phe Gln Glu Arg Asn Tyr Pro Arg Thr Tyr Val Asn Gly Arg  
 35 40 45

Asn Phe Gly Asn Ser His Pro Pro Thr Lys Gly Ser Ala Phe Gln Thr  
 50 55 60

Lys Ile Pro Phe Asn Arg Pro Arg Gly His Asn Phe Ser Leu Gln Thr  
 65 70 75 80

Ser Ala Val Val Leu Lys Asn Thr Ala Gly Ala Thr Lys Val Ile Ala  
 85 90 95

Ala Gln Ala Gln Gln Ala His Val Gln Ala Pro Gln Ile Gly Ala Trp  
 100 105 110

Arg Asn Arg Leu His Phe Leu Glu Gly Pro Gln Arg Cys Gly Leu Lys  
 115 120 125

Arg Lys Ser Glu Glu Leu Asp Asn His Ser Ser Ala Met Gln Ile Val  
 130 135 140

Asp Glu Leu Ser Ile Leu Pro Ala Met Leu Gln Thr Asn Met Gly Asn  
 145 150 155 160

Pro Val Thr Val Val Thr Ala Thr Thr Gly Ser Lys Gln Asn Cys Thr  
 165 170 175

Thr Gly Glu Gly Asp Tyr Gln Leu Val Gln His Glu Val Leu Cys Ser  
 180 185 190

Met Lys Asn Thr Tyr Glu Val Leu Asp Phe Leu Gly Arg Gly Thr Phe  
 195 200 205

Gly Gln Val Val Lys Cys Trp Lys Arg Gly Thr Asn Glu Ile Val Ala  
 210 215 220

Ile Lys Ile Leu Lys Asn His Pro Ser Tyr Ala Arg Gln Gly Gln Ile

225	230	235	240
Glu Val Ser Ile Leu Ala Arg Leu Ser Thr Glu Asn Ala Asp Glu Tyr	245	250	255
Asn Phe Val Arg Ala Tyr Glu Cys Phe Gln His Arg Asn His Thr Cys	260	265	270
Leu Val Phe Glu Met Leu Glu Gln Asn Leu Tyr Asp Phe Leu Lys Gln	275	280	285
Asn Lys Phe Ser Pro Leu Pro Leu Lys Val Ile Arg Pro Ile Leu Gln	290	295	300
Gln Val Ala Thr Ala Leu Lys Lys Leu Lys Ser Leu Gly Leu Ile His	305	310	315
Ala Asp Leu Lys Pro Glu Asn Ile Met Leu Val Asp Pro Val Arg Gln	325	330	335
Pro Tyr Arg Val Lys Val Ile Asp Phe Gly Ser Ala Ser His Val Ser	340	345	350
Lys Thr Val Cys Ser Thr Tyr Leu Gln Ser Arg Tyr Tyr Arg Ala Pro	355	360	365
Glu Ile Ile Leu Gly Leu Pro Phe Cys Glu Ala Ile Asp Met Trp Ser	370	375	380
Leu Gly Cys Val Ile Ala Glu Leu Phe Leu Gly Trp Pro Leu Tyr Pro	385	390	395
Gly Ala Leu Glu Tyr Asp Gln Ile Arg Tyr Ile Ser Gln Thr Gln Gly	405	410	415
Leu Pro Gly Glu Gln Leu Leu Asn Val Gly Thr Lys Ser Thr Arg Phe	420	425	430
Phe Cys Lys Glu Thr Asp Met Ser His Ser Gly Trp Arg Leu Lys Thr	435	440	445
Leu Glu Glu His Glu Ala Glu Thr Gly Met Lys Ser Lys Glu Ala Arg	450	455	460
Lys Tyr Ile Phe Asn Ser Leu Asp Asp Val Ala His Val Asn Thr Val	465	470	475
			480



Ser Asn His Tyr Asn Ser Val Met Pro Gln Pro Leu Leu Thr Asn Gln

725										730					735				
Ile	Thr	Leu	Ser	Ala	Pro	Gln	Pro	Val	Ser	Val	Gly	Ile	Ala	His	Val				
			740					745					750						
Val	Trp	Pro	Gln	Pro	Ala	Thr	Thr	Lys	Lys	Asn	Lys	Gln	Cys	Gln	Asn				
		755					760					765							
Arg	Gly	Ile	Leu	Val	Lys	Leu	Met	Glu	Trp	Glu	Pro	Gly	Arg	Glu	Glu				
	770					775					780								
Ile	Asn	Ala	Phe	Ser	Trp	Ser	Asn	Ser	Leu	Gln	Asn	Thr	Asn	Ile	Pro				
785					790					795					800				
His	Ser	Ala	Phe	Ile	Ser	Pro	Lys	Ile	Ile	Asn	Gly	Lys	Asp	Val	Glu				
				805					810					815					
Glu	Val	Ser	Cys	Ile	Glu	Thr	Gln	Asp	Asn	Gln	Asn	Ser	Glu	Gly	Glu				
			820					825					830						
Ala	Arg	Asn	Cys	Cys	Glu	Thr	Ser	Ile	Arg	Gln	Asp	Ser	Asp	Ser	Ser				
		835					840					845							
Val	Ser	Asp	Lys	Gln	Arg	Gln	Thr	Ile	Ile	Ile	Ala	Asp	Ser	Pro	Ser				
	850					855					860								
Pro	Ala	Val	Ser	Val	Ile	Thr	Ile	Ser	Ser	Asp	Thr	Asp	Glu	Glu	Glu				
865					870					875					880				
Thr	Ser	Gln	Arg	His	Ser	Leu	Arg	Glu	Cys	Lys	Gly	Ser	Leu	Asp	Cys				
				885					890					895					
Glu	Ala	Cys	Gln	Ser	Thr	Leu	Asn	Ile	Asp	Arg	Met	Cys	Ser	Leu	Ser				
			900					905					910						
Ser	Pro	Asp	Ser	Thr	Leu	Ser	Thr	Ser	Ser	Ser	Gly	Gln	Ser	Ser	Pro				
		915					920					925							
Ser	Pro	Cys	Lys	Arg	Pro	Asn	Ser	Met	Ser	Asp	Glu	Glu	Gln	Glu	Ser				
		930				935					940								
Ser	Cys	Asp	Thr	Val	Asp	Gly	Ser	Pro	Thr	Ser	Asp	Ser	Ser	Gly	His				
945					950					955					960				
Asp	Ser	Pro	Phe	Ala	Glu	Ser	Thr	Phe	Val	Glu	Asp	Thr	His	Glu	Asn				
				965					970					975					

Thr Glu Leu Val Ser Ser Ala Asp Thr Glu Thr Lys Pro Ala Val Cys  
                   980                                  985                                  990

Ser Val Val Val Pro Pro Val Glu Leu Glu Asn Gly Leu Asn Ala Asp  
                   995                                  1000                                  1005

Glu His Met Ala Asn Thr Asp Ser Ile Cys Gln Pro Leu Ile Lys  
           1010                                  1015                                  1020

Gly Arg Ser Ala Pro Gly Arg Leu Asn Gln Pro Ser Ala Val Gly  
           1025                                  1030                                  1035

Thr Arg Gln Gln Lys Leu Thr Ser Ala Phe Gln Gln Gln His Leu  
           1040                                  1045                                  1050

Asn Phe Ser Gln Val Gln His Phe Gly Ser Gly His Gln Glu Trp  
           1055                                  1060                                  1065

Asn Gly Asn Phe Gly His Arg Arg Gln Gln Ala Tyr Ile Pro Thr  
           1070                                  1075                                  1080

Ser Val Thr Ser Asn Pro Phe Thr Leu Ser His Gly Ser Pro Asn  
           1085                                  1090                                  1095

His Thr Ala Val His Ala His Leu Ala Gly Asn Thr His Leu Gly  
           1100                                  1105                                  1110

Gly Gln Pro Thr Leu Leu Pro Tyr Pro Ser Ser Ala Thr Leu Ser  
           1115                                  1120                                  1125

Ser Ala Ala Pro Val Ala His Leu Leu Ala Ser Pro Cys Thr Ser  
           1130                                  1135                                  1140

Arg Pro Met Leu Gln His Pro Thr Tyr Asn Ile Ser His Pro Ser  
           1145                                  1150                                  1155

Gly Ile Val His Gln Val Pro Val Gly Leu Asn Pro Arg Leu Leu  
           1160                                  1165                                  1170

Pro Ser Pro Thr Ile His Gln Thr Gln Tyr Lys Pro Ile Phe Pro  
           1175                                  1180                                  1185

Pro His Ser Tyr Ile Ala Ala Ser Pro Ala Tyr Thr Gly Phe Pro  
           1190                                  1195                                  1200

Leu Ser Pro Thr Lys Leu Ser Gln Tyr Pro Tyr Met

1205                      1210                      1215  
  
 <210> 38  
 <211> 976  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 38  
  
 Met Arg Gly Ala Arg Gly Ala Trp Asp Phe Leu Cys Val Leu Leu Leu  
 1                      5                      10                      15  
  
 Leu Leu Arg Val Gln Thr Gly Ser Ser Gln Pro Ser Val Ser Pro Gly  
                     20                      25                      30  
  
 Glu Pro Ser Pro Pro Ser Ile His Pro Gly Lys Ser Asp Leu Ile Val  
                     35                      40                      45  
  
 Arg Val Gly Asp Glu Ile Arg Leu Leu Cys Thr Asp Pro Gly Phe Val  
                     50                      55                      60  
  
 Lys Trp Thr Phe Glu Ile Leu Asp Glu Thr Asn Glu Asn Lys Gln Asn  
 65                      70                      75                      80  
  
 Glu Trp Ile Thr Glu Lys Ala Glu Ala Thr Asn Thr Gly Lys Tyr Thr  
                     85                      90                      95  
  
 Cys Thr Asn Lys His Gly Leu Ser Asn Ser Ile Tyr Val Phe Val Arg  
                     100                      105                      110  
  
 Asp Pro Ala Lys Leu Phe Leu Val Asp Arg Ser Leu Tyr Gly Lys Glu  
                     115                      120                      125  
  
 Asp Asn Asp Thr Leu Val Arg Cys Pro Leu Thr Asp Pro Glu Val Thr  
                     130                      135                      140  
  
 Asn Tyr Ser Leu Lys Gly Cys Gln Gly Lys Pro Leu Pro Lys Asp Leu  
 145                      150                      155                      160  
  
 Arg Phe Ile Pro Asp Pro Lys Ala Gly Ile Met Ile Lys Ser Val Lys  
                     165                      170                      175  
  
 Arg Ala Tyr His Arg Leu Cys Leu His Cys Ser Val Asp Gln Glu Gly  
                     180                      185                      190  
  
 Lys Ser Val Leu Ser Glu Lys Phe Ile Leu Lys Val Arg Pro Ala Phe  
                     195                      200                      205

Lys Ala Val Pro Val Val Ser Val Ser Lys Ala Ser Tyr Leu Leu Arg  
 210 215 220

Glu Gly Glu Glu Phe Thr Val Thr Cys Thr Ile Lys Asp Val Ser Ser  
 225 230 235 240

Ser Val Tyr Ser Thr Trp Lys Arg Glu Asn Ser Gln Thr Lys Leu Gln  
 245 250 255

Glu Lys Tyr Asn Ser Trp His His Gly Asp Phe Asn Tyr Glu Arg Gln  
 260 265 270

Ala Thr Leu Thr Ile Ser Ser Ala Arg Val Asn Asp Ser Gly Val Phe  
 275 280 285

Met Cys Tyr Ala Asn Asn Thr Phe Gly Ser Ala Asn Val Thr Thr Thr  
 290 295 300

Leu Glu Val Val Asp Lys Gly Phe Ile Asn Ile Phe Pro Met Ile Asn  
 305 310 315 320

Thr Thr Val Phe Val Asn Asp Gly Glu Asn Val Asp Leu Ile Val Glu  
 325 330 335

Tyr Glu Ala Phe Pro Lys Pro Glu His Gln Gln Trp Ile Tyr Met Asn  
 340 345 350

Arg Thr Phe Thr Asp Lys Trp Glu Asp Tyr Pro Lys Ser Glu Asn Glu  
 355 360 365

Ser Asn Ile Arg Tyr Val Ser Glu Leu His Leu Thr Arg Leu Lys Gly  
 370 375 380

Thr Glu Gly Gly Thr Tyr Thr Phe Leu Val Ser Asn Ser Asp Val Asn  
 385 390 395 400

Ala Ala Ile Ala Phe Asn Val Tyr Val Asn Thr Lys Pro Glu Ile Leu  
 405 410 415

Thr Tyr Asp Arg Leu Val Asn Gly Met Leu Gln Cys Val Ala Ala Gly  
 420 425 430

Phe Pro Glu Pro Thr Ile Asp Trp Tyr Phe Cys Pro Gly Thr Glu Gln  
 435 440 445

Arg Cys Ser Ala Ser Val Leu Pro Val Asp Val Gln Thr Leu Asn Ser  
 450 455 460

Ser Gly Pro Pro Phe Gly Lys Leu Val Val Gln Ser Ser Ile Asp Ser  
465 470 475 480

Ser Ala Phe Lys His Asn Gly Thr Val Glu Cys Lys Ala Tyr Asn Asp  
485 490 495

Val Gly Lys Thr Ser Ala Tyr Phe Asn Phe Ala Phe Lys Gly Asn Asn  
500 505 510

Lys Glu Gln Ile His Pro His Thr Leu Phe Thr Pro Leu Leu Ile Gly  
515 520 525

Phe Val Ile Val Ala Gly Met Met Cys Ile Ile Val Met Ile Leu Thr  
530 535 540

Tyr Lys Tyr Leu Gln Lys Pro Met Tyr Glu Val Gln Trp Lys Val Val  
545 550 555 560

Glu Glu Ile Asn Gly Asn Asn Tyr Val Tyr Ile Asp Pro Thr Gln Leu  
565 570 575

Pro Tyr Asp His Lys Trp Glu Phe Pro Arg Asn Arg Leu Ser Phe Gly  
580 585 590

Lys Thr Leu Gly Ala Gly Ala Phe Gly Lys Val Val Glu Ala Thr Ala  
595 600 605

Tyr Gly Leu Ile Lys Ser Asp Ala Ala Met Thr Val Ala Val Lys Met  
610 615 620

Leu Lys Pro Ser Ala His Leu Thr Glu Arg Glu Ala Leu Met Ser Glu  
625 630 635 640

Leu Lys Val Leu Ser Tyr Leu Gly Asn His Met Asn Ile Val Asn Leu  
645 650 655

Leu Gly Ala Cys Thr Ile Gly Gly Pro Thr Leu Val Ile Thr Glu Tyr  
660 665 670

Cys Cys Tyr Gly Asp Leu Leu Asn Phe Leu Arg Arg Lys Arg Asp Ser  
675 680 685

Phe Ile Cys Ser Lys Gln Glu Asp His Ala Glu Ala Ala Leu Tyr Lys  
690 695 700

Asn Leu Leu His Ser Lys Glu Ser Ser Cys Ser Asp Ser Thr Asn Glu  
 705 710 715 720  
 Tyr Met Asp Met Lys Pro Gly Val Ser Tyr Val Val Pro Thr Lys Ala  
 725 730 735  
 Asp Lys Arg Arg Ser Val Arg Ile Gly Ser Tyr Ile Glu Arg Asp Val  
 740 745 750  
 Thr Pro Ala Ile Met Glu Asp Asp Glu Leu Ala Leu Asp Leu Glu Asp  
 755 760 765  
 Leu Leu Ser Phe Ser Tyr Gln Val Ala Lys Gly Met Ala Phe Leu Ala  
 770 775 780  
 Ser Lys Asn Cys Ile His Arg Asp Leu Ala Ala Arg Asn Ile Leu Leu  
 785 790 795 800  
 Thr His Gly Arg Ile Thr Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp  
 805 810 815  
 Ile Lys Asn Asp Ser Asn Tyr Val Val Lys Gly Asn Ala Arg Leu Pro  
 820 825 830  
 Val Lys Trp Met Ala Pro Glu Ser Ile Phe Asn Cys Val Tyr Thr Phe  
 835 840 845  
 Glu Ser Asp Val Trp Ser Tyr Gly Ile Phe Leu Trp Glu Leu Phe Ser  
 850 855 860  
 Leu Gly Ser Ser Pro Tyr Pro Gly Met Pro Val Asp Ser Lys Phe Tyr  
 865 870 875 880  
 Lys Met Ile Lys Glu Gly Phe Arg Met Leu Ser Pro Glu His Ala Pro  
 885 890 895  
 Ala Glu Met Tyr Asp Ile Met Lys Thr Cys Trp Asp Ala Asp Pro Leu  
 900 905 910  
 Lys Arg Pro Thr Phe Lys Gln Ile Val Gln Leu Ile Glu Lys Gln Ile  
 915 920 925  
 Ser Glu Ser Thr Asn His Ile Tyr Ser Asn Leu Ala Asn Cys Ser Pro  
 930 935 940  
 Asn Arg Gln Lys Pro Val Val Asp His Ser Val Arg Ile Asn Ser Val  
 945 950 955 960

<210>	39
<211>	360
<212>	PRT
<213>	Homo sapiens
<400>	39

Tyr Arg Ala Pro Glu Ile Met Leu Asn Ser Lys Gly Tyr Thr Lys Ser



195                                      200                                      205  
 Ile Asp Ile Trp Ser Val Gly Cys Ile Leu Ala Glu Met Leu Ser Asn  
 210                                      215                                      220  
 Arg Pro Ile Phe Pro Gly Lys His Tyr Leu Asp Gln Leu Asn His Ile  
 225                                      230                                      235                                      240  
 Leu Gly Ile Leu Gly Ser Pro Ser Gln Glu Asp Leu Asn Cys Ile Ile  
 245                                      250                                      255  
 Asn Leu Lys Ala Arg Asn Tyr Leu Leu Ser Leu Pro His Lys Asn Lys  
 260                                      265                                      270  
 Val Pro Trp Asn Arg Leu Phe Pro Asn Ala Asp Ser Lys Ala Leu Asp  
 275                                      280                                      285  
 Leu Leu Asp Lys Met Leu Thr Phe Asn Pro His Lys Arg Ile Glu Val  
 290                                      295                                      300  
 Glu Gln Ala Leu Ala His Pro Tyr Leu Glu Gln Tyr Tyr Asp Pro Ser  
 305                                      310                                      315                                      320  
 Asp Glu Pro Ile Ala Glu Ala Pro Phe Lys Phe Asp Met Glu Leu Asp  
 325                                      330                                      335  
 Asp Leu Pro Lys Glu Lys Leu Lys Glu Leu Ile Phe Glu Glu Thr Ala  
 340                                      345                                      350  
 Arg Phe Gln Pro Gly Tyr Arg Ser  
 355                                      360  
 <210> 40  
 <211> 422  
 <212> PRT  
 <213> Homo sapiens  
 <400> 40  
 Met Ser Leu His Phe Leu Tyr Tyr Cys Ser Glu Pro Thr Leu Asp Val  
 1                                      5                                      10                                      15  
 Lys Ile Ala Phe Cys Gln Gly Phe Asp Lys Gln Val Asp Val Ser Tyr  
 20                                      25                                      30  
 Ile Ala Lys His Tyr Asn Met Ser Lys Ser Lys Val Asp Asn Gln Phe  
 35                                      40                                      45

Tyr Ser Val Glu Val Gly Asp Ser Thr Phe Thr Val Leu Lys Arg Tyr  
 50 55 60

Gln Asn Leu Lys Pro Ile Gly Ser Gly Ala Gln Gly Ile Val Cys Ala  
 65 70 75 80

Ala Tyr Asp Ala Val Leu Asp Arg Asn Val Ala Ile Lys Lys Leu Ser  
 85 90 95

Arg Pro Phe Gln Asn Gln Thr His Ala Lys Arg Ala Tyr Arg Glu Leu  
 100 105 110

Val Leu Met Lys Cys Val Asn His Lys Asn Ile Ile Ser Leu Leu Asn  
 115 120 125

Val Phe Thr Pro Gln Lys Thr Leu Glu Glu Phe Gln Asp Val Tyr Leu  
 130 135 140

Val Met Glu Leu Met Asp Ala Asn Leu Cys Gln Val Ile Gln Met Glu  
 145 150 155 160

Leu Asp His Glu Arg Met Ser Tyr Leu Leu Tyr Gln Met Leu Cys Gly  
 165 170 175

Ile Lys His Leu His Ser Ala Gly Ile Ile His Arg Asp Leu Lys Pro  
 180 185 190

Ser Asn Ile Val Val Lys Ser Asp Cys Thr Leu Lys Ile Leu Asp Phe  
 195 200 205

Gly Leu Ala Arg Thr Ala Gly Thr Ser Phe Met Met Thr Pro Tyr Val  
 210 215 220

Val Thr Arg Tyr Tyr Arg Ala Pro Glu Val Ile Leu Gly Met Gly Tyr  
 225 230 235 240

Lys Glu Asn Val Asp Ile Trp Ser Val Gly Cys Ile Met Gly Glu Met  
 245 250 255

Val Arg His Lys Ile Leu Phe Pro Gly Arg Asp Tyr Ile Asp Gln Trp  
 260 265 270

Asn Lys Val Ile Glu Gln Leu Gly Thr Pro Cys Pro Glu Phe Met Lys  
 275 280 285

Lys Leu Gln Pro Thr Val Arg Asn Tyr Val Glu Asn Arg Pro Lys Tyr  
 290 295 300

Ala Gly Leu Thr Phe Pro Lys Leu Phe Pro Asp Ser Leu Phe Pro Ala  
305 310 315 320

Asp Ser Glu His Asn Lys Leu Lys Ala Ser Gln Ala Arg Asp Leu Leu  
325 330 335

Ser Lys Met Leu Val Ile Asp Pro Ala Lys Arg Ile Ser Val Asp Asp  
340 345 350

Ala Leu Gln His Pro Tyr Ile Asn Val Trp Tyr Asp Pro Ala Glu Val  
355 360 365

Glu Ala Pro Pro Pro Gln Ile Tyr Asp Lys Gln Leu Asp Glu Arg Glu  
370 375 380

His Thr Ile Glu Glu Trp Lys Glu Leu Ile Tyr Lys Glu Val Met Asn  
385 390 395 400

Ser Glu Glu Lys Thr Lys Asn Gly Val Val Lys Gly Gln Pro Ser Pro  
405 410 415

Ser Ala Gln Val Gln Gln  
420

<210> 41  
<211> 377  
<212> PRT  
<213> Homo sapiens

<400> 41

Met Ala Leu Ser His Gly Ser Val Leu His Gly Gly Asp Cys Gly Lys  
1 5 10 15

Phe Asn Asn Ser Lys Gly Lys Gly Asn His Lys Gly Phe Lys Val Ala  
20 25 30

Glu Lys Phe Glu Ser Leu Met Asn Ile His Gly Phe Asp Leu Asp Ser  
35 40 45

Thr Tyr Met Asp Leu Lys Pro Leu Gly Cys Gly Gly Asn Tyr Leu Phe  
50 55 60

Phe Ser Ala Val Asp Asn Asp Cys Asp Lys Arg Val Ala Ile Lys Lys  
65 70 75 80

Ile Val Leu Thr Asn Pro Gln Ser Val Lys His Ala Leu Cys Glu Ile

	85		90		95
Lys Ile Ile Arg Arg Leu Asp His Asp Asn Ile Val Lys Val Phe Glu	100		105		110
Ile Pro Gly Pro Ser Gly Ser Gln Leu Thr Asp Asp Val Gly Ser Leu	115		120		125
Thr Glu Leu Asn Ser Val Tyr Ile Val Gln Glu Tyr Met Lys Thr Asp	130		135		140
Leu Ser Lys Val Leu Glu Gln Gly Pro Leu Leu Glu Glu His Ala Arg	145		150		155
Leu Phe Met Tyr Gln Leu Leu Arg Gly Leu Lys Tyr Ile His Ser Ala		165		170	175
Asn Val Leu His Arg Asp Leu Lys Pro Thr Asn Leu Phe Ile Asn Thr		180		185	190
Glu Asp Leu Val Leu Lys Ile Gly Asp Phe Gly Leu Ala Arg Ile Met		195		200	205
Asp Pro His Tyr Ser Arg Ala His Glu Leu Glu Gln Met Gln Leu Thr		210		215	220
Leu Glu Ser Ile Pro Val Ala His Glu Glu Asp Arg Gln Glu Leu Leu	225		230		235
Ser Val Ile Pro Val Tyr Ile Arg Asn His Met Thr Glu Pro His Lys		245		250	255
Pro Leu Thr Gln Leu Leu Pro Gly Ile Ser Arg Glu Ala Leu Asn Phe		260		265	270
Leu Glu Gln Ile Leu Thr Phe Ser Pro Met Asp Trp Leu Ile Ala Glu		275		280	285
Glu Ala Leu Ser His Pro Tyr Met Ser Ile Cys Ser Phe Pro Met Asp		290		295	300
Lys Pro Ile Ser Ser His Pro Phe His Ile Glu Asp Glu Ala His Asn	305		310		315
Ile Leu Leu Met Asp Glu Thr His Ser His Ile Tyr Asn Trp Glu Arg		325		330	335

Tyr Tyr Asp Cys Gln Phe Ser Glu His Asp Trp Pro Ile His Asn Asn  
                   340                                  345                                  350

Phe Asp Ile Asp Glu Val Gln Leu Asn Pro Arg Ala Leu Ser Asp Val  
                   355                                  360                                  365

Thr Asp Glu Glu Val Gln Val Asp Pro  
           370                                  375

<210> 42  
 <211> 721  
 <212> PRT  
 <213> Homo sapiens

<400> 42

Met Ala Glu Lys Phe Glu Ser Leu Met Asn Ile His Gly Phe Asp Leu  
   1                                  5                                  10                                  15

Gly Ser Arg Tyr Met Asp Leu Lys Pro Leu Gly Cys Gly Gly Asn Gly  
                   20                                  25                                  30

Leu Val Phe Ser Ala Val Asp Asn Asp Cys Asp Lys Arg Val Ala Ile  
                   35                                  40                                  45

Lys Lys Ile Val Leu Thr Asp Pro Gln Ser Val Lys His Ala Leu Arg  
           50                                  55                                  60

Glu Ile Lys Ile Ile Arg Arg Leu Asp His Asp Asn Ile Val Lys Val  
   65                                  70                                  75                                  80

Phe Glu Ile Leu Gly Pro Ser Gly Ser Gln Leu Thr Asp Asp Val Gly  
                   85                                  90                                  95

Ser Leu Thr Glu Leu Asn Ser Val Tyr Ile Val Gln Glu Tyr Met Glu  
                   100                                  105                                  110

Thr Asp Leu Ala Asn Val Leu Glu Gln Gly Pro Leu Leu Glu Glu His  
                   115                                  120                                  125

Ala Arg Leu Phe Met Tyr Gln Leu Leu Arg Gly Leu Lys Tyr Ile His  
           130                                  135                                  140

Ser Ala Asn Val Leu His Arg Asp Leu Lys Pro Ala Asn Leu Phe Ile  
   145                                  150                                  155                                  160

Asn Thr Glu Asp Leu Val Leu Lys Ile Gly Asp Phe Gly Leu Ala Arg  
                   165                                  170                                  175

Ile Met Asp Pro His Tyr Ser His Lys Gly His Leu Ser Glu Gly Leu  
 180 185 190

Val Thr Lys Trp Tyr Arg Ser Pro Arg Leu Leu Leu Ser Pro Asn Asn  
 195 200 205

Tyr Thr Lys Ala Ile Asp Met Trp Ala Ala Gly Cys Ile Phe Ala Glu  
 210 215 220

Met Leu Thr Gly Lys Thr Leu Phe Ala Gly Ala His Glu Leu Glu Gln  
 225 230 235 240

Met Gln Leu Ile Leu Glu Ser Ile Pro Val Val His Glu Glu Asp Arg  
 245 250 255

Gln Glu Leu Leu Ser Val Ile Pro Val Tyr Ile Arg Asn Asp Met Thr  
 260 265 270

Glu Pro His Lys Pro Leu Thr Gln Leu Leu Pro Gly Ile Ser Arg Glu  
 275 280 285

Ala Leu Asp Phe Leu Glu Gln Ile Leu Thr Phe Ser Pro Met Asp Arg  
 290 295 300

Leu Thr Ala Glu Glu Ala Leu Ser His Pro Tyr Met Ser Ile Tyr Ser  
 305 310 315 320

Phe Pro Met Asp Glu Pro Ile Ser Ser His Pro Phe His Ile Glu Asp  
 325 330 335

Glu Val Asp Asp Ile Leu Leu Met Asp Glu Thr His Ser His Ile Tyr  
 340 345 350

Asn Trp Glu Arg Tyr His Asp Cys Gln Phe Ser Glu His Asp Trp Pro  
 355 360 365

Val His Asn Asn Phe Asp Ile Asp Glu Val Gln Leu Asp Pro Arg Ala  
 370 375 380

Leu Ser Asp Val Thr Asp Glu Glu Glu Val Gln Val Asp Pro Arg Lys  
 385 390 395 400

Tyr Leu Asp Gly Asp Arg Glu Lys Tyr Leu Glu Asp Pro Ala Phe Asp  
 405 410 415

Thr Asn Tyr Ser Thr Glu Pro Cys Trp Gln Tyr Ser Asp His His Glu  
 420 425 430

Asn Lys Tyr Cys Asp Leu Glu Cys Ser His Thr Cys Asn Tyr Lys Thr  
 435 440 445

Arg Ser Ser Ser Tyr Leu Asp Asn Leu Val Trp Arg Glu Ser Glu Val  
 450 455 460

Asn His Tyr Tyr Glu Pro Lys Leu Ile Ile Asp Leu Ser Asn Trp Lys  
 465 470 475 480

Glu Gln Ser Lys Glu Lys Ser Asp Lys Lys Gly Lys Ser Lys Cys Glu  
 485 490 495

Arg Asn Gly Leu Val Lys Ala Gln Ile Ala Leu Glu Glu Ala Ser Gln  
 500 505 510

Gln Leu Ala Gly Lys Glu Arg Glu Lys Asn Gln Gly Phe Asp Phe Asp  
 515 520 525

Ser Phe Ile Ala Gly Thr Ile Gln Leu Ser Ser Gln His Glu Pro Thr  
 530 535 540

Asp Val Val Asp Lys Leu Asn Asp Leu Asn Ser Ser Val Ser Gln Leu  
 545 550 555 560

Glu Leu Lys Ser Leu Ile Ser Lys Ser Val Ser Gln Glu Lys Gln Glu  
 565 570 575

Lys Gly Met Ala Asn Leu Ala Gln Leu Glu Ala Leu Tyr Gln Ser Ser  
 580 585 590

Trp Asp Ser Gln Phe Val Ser Gly Gly Glu Asp Cys Phe Phe Ile Asn  
 595 600 605

Gln Phe Cys Glu Val Arg Lys Asp Glu Gln Val Glu Lys Glu Asn Thr  
 610 615 620

Tyr Thr Ser Tyr Leu Asp Lys Phe Phe Ser Arg Lys Glu Asp Thr Glu  
 625 630 635 640

Met Leu Glu Thr Glu Pro Val Glu Asp Gly Lys Leu Gly Glu Arg Gly  
 645 650 655

His Glu Glu Gly Phe Leu Asn Asn Ser Gly Glu Phe Leu Phe Asn Lys  
 660 665 670

Gln Leu Glu Ser Ile Gly Ile Pro Gln Phe His Ser Pro Val Gly Ser  
675 680 685

Pro Leu Lys Ser Ile Gln Ala Thr Leu Thr Pro Ser Ala Met Lys Ser  
690 695 700

Ser Pro Gln Ile Pro His Gln Thr Tyr Ser Ser Ile Leu Lys His Leu  
705 710 715 720

Asn

<210> 43  
<211> 557  
<212> PRT  
<213> Homo sapiens

<400> 43

Met Ala Glu Lys Gly Asp Cys Ile Ala Ser Val Tyr Gly Tyr Asp Leu  
1 5 10 15

Gly Gly Arg Phe Val Asp Phe Gln Pro Leu Gly Phe Gly Val Asn Gly  
20 25 30

Leu Val Leu Ser Ala Val Asp Ser Arg Ala Cys Arg Lys Val Ala Val  
35 40 45

Lys Lys Ile Ala Leu Ser Asp Ala Arg Ser Met Lys His Ala Leu Arg  
50 55 60

Glu Ile Lys Ile Ile Arg Arg Leu Asp His Asp Asn Ile Val Lys Val  
65 70 75 80

Tyr Glu Val Leu Gly Pro Lys Gly Thr Asp Leu Gln Gly Glu Leu Phe  
85 90 95

Lys Phe Ser Val Ala Tyr Ile Val Gln Glu Tyr Met Glu Thr Asp Leu  
100 105 110

Ala Arg Leu Leu Glu Gln Gly Thr Leu Ala Glu Glu His Ala Lys Leu  
115 120 125

Phe Met Tyr Gln Leu Leu Arg Gly Leu Lys Tyr Ile His Ser Ala Asn  
130 135 140

Val Leu His Arg Asp Leu Lys Pro Ala Asn Ile Phe Ile Ser Thr Glu



145	150	155	160
Asp Leu Val Leu Lys Ile Gly Asp Phe Gly Leu Ala Arg Ile Val Asp	165	170	175
Gln His Tyr Ser His Lys Gly Tyr Leu Ser Glu Gly Leu Val Thr Lys	180	185	190
Trp Tyr Arg Ser Pro Arg Leu Leu Leu Ser Pro Asn Asn Tyr Thr Lys	195	200	205
Ala Ile Asp Met Trp Ala Ala Gly Cys Ile Leu Ala Glu Met Leu Thr	210	215	220
Gly Arg Met Leu Phe Ala Gly Ala His Glu Leu Glu Gln Met Gln Leu	225	230	235
Ile Leu Glu Thr Ile Pro Val Ile Arg Glu Glu Asp Lys Asp Glu Leu	245	250	255
Leu Arg Val Met Pro Ser Phe Val Ser Ser Thr Trp Glu Val Lys Arg	260	265	270
Pro Leu Arg Lys Leu Leu Pro Glu Val Asn Ser Glu Ala Ile Asp Phe	275	280	285
Leu Glu Lys Ile Leu Thr Phe Asn Pro Met Asp Arg Leu Thr Ala Glu	290	295	300
Met Gly Leu Gln His Pro Tyr Met Ser Pro Tyr Ser Cys Pro Glu Asp	305	310	315
Glu Pro Thr Ser Gln His Pro Phe Arg Ile Glu Asp Glu Ile Asp Asp	325	330	335
Ile Val Leu Met Ala Ala Asn Gln Ser Gln Leu Ser Asn Trp Asp Thr	340	345	350
Cys Ser Ser Arg Tyr Pro Val Ser Leu Ser Ser Asp Leu Glu Trp Arg	355	360	365
Pro Asp Arg Cys Gln Asp Ala Ser Glu Val Gln Arg Asp Pro Arg Gly	370	375	380
Phe Gly Ala Leu Ala Glu Asp Val Gln Val Asp Pro Arg Lys Asp Ser	385	390	395
			400

His Ser Ser Ser Glu Arg Phe Leu Glu Gln Ser His Ser Ser Met Glu  
405 410 415

Arg Ala Phe Glu Ala Asp Tyr Gly Arg Ser Cys Asp Tyr Lys Val Gly  
420 425 430

Ser Pro Ser Tyr Leu Asp Lys Leu Leu Trp Arg Asp Asn Lys Pro His  
435 440 445

His Tyr Ser Glu Pro Lys Leu Ile Leu Asp Leu Ser His Trp Lys Gln  
450 455 460

Ala Ala Gly Ala Pro Pro Thr Ala Thr Gly Leu Ala Asp Thr Gly Ala  
465 470 475 480

Arg Glu Asp Glu Pro Ala Ser Leu Phe Leu Glu Ile Ala Gln Trp Val  
485 490 495

Lys Ser Thr Gln Gly Ala Gln Ser Thr Pro Ala Arg Pro Pro Thr Thr  
500 505 510

Pro Ser Ala Ala Cys Leu Pro Arg Pro Pro Pro Gly Pro Gly Gly  
515 520 525

Arg Arg Arg Gln Pro Pro Val Arg Pro Gly Arg Val His Leu Pro Arg  
530 535 540

Pro Glu Ala Leu His Gln Ala Arg Gly Pro Ala Gly Gln  
545 550 555

<210> 44  
<211> 841  
<212> PRT  
<213> Homo sapiens

<400> 44

Met Pro Leu Ala Ala Tyr Cys Tyr Leu Arg Val Val Gly Lys Gly Ser  
1 5 10 15

Tyr Gly Glu Val Thr Leu Val Lys His Arg Arg Asp Gly Lys Gln Tyr  
20 25 30

Val Ile Lys Lys Leu Asn Leu Arg Asn Ala Ser Ser Arg Glu Arg Arg  
35 40 45

Ala Ala Glu Gln Glu Ala Gln Leu Leu Ser Gln Leu Lys His Pro Asn  
50 55 60

Ile Val Thr Tyr Lys Glu Ser Trp Glu Gly Gly Asp Gly Leu Leu Tyr  
65 70 75 80

Ile Val Met Gly Phe Cys Glu Gly Gly Asp Leu Tyr Arg Lys Leu Lys  
85 90 95

Glu Gln Lys Gly Gln Leu Leu Pro Glu Asn Gln Val Val Glu Trp Phe  
100 105 110

Val Gln Ile Ala Met Ala Leu Gln Tyr Leu His Glu Lys His Ile Leu  
115 120 125

His Arg Asp Leu Lys Thr Gln Asn Val Phe Leu Thr Arg Thr Asn Ile  
130 135 140

Ile Lys Val Gly Asp Leu Gly Ile Ala Arg Val Leu Glu Asn His Cys  
145 150 155 160

Asp Met Ala Ser Thr Leu Ile Gly Thr Pro Tyr Tyr Met Ser Pro Glu  
165 170 175

Leu Phe Ser Asn Lys Pro Tyr Asn Tyr Lys Ser Asp Val Trp Ala Leu  
180 185 190

Gly Cys Cys Val Tyr Glu Met Ala Thr Leu Lys His Ala Phe Asn Ala  
195 200 205

Lys Asp Met Asn Ser Leu Val Tyr Arg Ile Ile Glu Gly Lys Leu Pro  
210 215 220

Ala Met Pro Arg Asp Tyr Ser Pro Glu Leu Ala Glu Leu Ile Arg Thr  
225 230 235 240

Met Leu Ser Lys Arg Pro Glu Glu Arg Pro Ser Val Arg Ser Ile Leu  
245 250 255

Arg Gln Pro Tyr Ile Lys Arg Gln Ile Ser Phe Phe Leu Glu Ala Thr  
260 265 270

Lys Ile Lys Thr Ser Lys Asn Asn Ile Lys Asn Gly Asp Ser Gln Ser  
275 280 285

Lys Pro Phe Ala Thr Val Val Ser Gly Glu Ala Glu Ser Asn His Glu  
290 295 300

Val Ile His Pro Gln Pro Leu Ser Ser Glu Gly Ser Gln Thr Tyr Ile  
305 310 315 320

Met Gly Glu Gly Lys Cys Leu Ser Gln Glu Lys Pro Arg Ala Ser Gly  
325 330 335

Leu Leu Lys Ser Pro Ala Ser Leu Lys Ala His Thr Cys Lys Gln Asp  
340 345 350

Leu Ser Asn Thr Thr Glu Leu Ala Thr Ile Ser Ser Val Asn Ile Asp  
355 360 365

Ile Leu Pro Ala Lys Gly Arg Asp Ser Val Ser Asp Gly Phe Val Gln  
370 375 380

Glu Asn Gln Pro Arg Tyr Leu Asp Ala Ser Asn Glu Leu Gly Gly Ile  
385 390 395 400

Cys Ser Ile Ser Gln Val Glu Glu Glu Met Leu Gln Asp Asn Thr Lys  
405 410 415

Ser Ser Ala Gln Pro Glu Asn Leu Ile Pro Met Trp Ser Ser Asp Ile  
420 425 430

Val Thr Gly Glu Lys Asn Glu Pro Val Lys Pro Leu Gln Pro Leu Ile  
435 440 445

Lys Glu Gln Lys Pro Lys Asp Gln Ser Leu Ala Leu Ser Pro Lys Leu  
450 455 460

Glu Cys Ser Gly Thr Ile Leu Ala His Ser Asn Leu Arg Leu Leu Gly  
465 470 475 480

Ser Ser Asp Ser Pro Ala Ser Ala Ser Arg Val Ala Gly Ile Thr Gly  
485 490 495

Val Cys His His Ala Gln Asp Gln Val Ala Gly Glu Cys Ile Ile Glu  
500 505 510

Lys Gln Gly Arg Ile His Pro Asp Leu Gln Pro His Asn Ser Gly Ser  
515 520 525

Glu Pro Ser Leu Ser Arg Gln Arg Arg Gln Lys Arg Arg Glu Gln Thr  
530 535 540

Glu His Arg Gly Glu Lys Arg Gln Val Arg Arg Asp Leu Phe Ala Phe  
545 550 555 560

Gln Glu Ser Pro Pro Arg Phe Leu Pro Ser His Pro Ile Val Gly Lys  
565 570 575

Val Asp Val Thr Ser Thr Gln Lys Glu Ala Glu Asn Gln Arg Arg Val  
580 585 590

Val Thr Gly Ser Val Ser Ser Ser Arg Ser Ser Glu Met Ser Ser Ser  
595 600 605

Lys Asp Arg Pro Leu Ser Ala Arg Glu Arg Arg Arg Leu Lys Gln Ser  
610 615 620

Gln Glu Glu Met Ser Ser Ser Gly Pro Ser Val Arg Lys Ala Ser Leu  
625 630 635 640

Ser Val Ala Gly Pro Gly Lys Pro Gln Glu Glu Asp Gln Pro Leu Pro  
645 650 655

Ala Arg Arg Leu Ser Ser Asp Cys Ser Val Thr Gln Glu Arg Lys Gln  
660 665 670

Ile His Cys Leu Ser Glu Asp Glu Leu Ser Ser Ser Thr Ser Ser Thr  
675 680 685

Asp Lys Ser Asp Gly Asp Tyr Gly Glu Gly Lys Gly Gln Thr Asn Glu  
690 695 700

Ile Asn Ala Leu Val Gln Leu Met Thr Gln Thr Leu Lys Leu Asp Ser  
705 710 715 720

Lys Glu Ser Cys Glu Asp Val Pro Val Ala Asn Pro Val Ser Glu Phe  
725 730 735

Lys Leu His Arg Lys Tyr Arg Asp Thr Leu Ile Leu His Gly Lys Val  
740 745 750

Ala Glu Glu Ala Glu Glu Ile His Phe Lys Glu Leu Pro Ser Ala Ile  
755 760 765

Met Pro Gly Ser Glu Lys Ile Arg Arg Leu Val Glu Val Leu Arg Thr  
770 775 780

Asp Val Ile Arg Gly Leu Gly Val Gln Leu Leu Glu Gln Val Tyr Asp  
785 790 795 800

Leu Leu Glu Glu Glu Asp Glu Phe Asp Arg Glu Val Arg Leu Arg Glu  
805 810 815

His Met Gly Glu Lys Tyr Thr Thr Tyr Ser Val Lys Ala Arg Gln Leu  
820 825 830

Lys Phe Phe Glu Glu Asn Met Asn Phe  
835 840

<210> 45  
<211> 822  
<212> PRT  
<213> Homo sapiens

<400> 45

Met Ser Ser Trp Ile Arg Trp His Gly Pro Ala Met Ala Arg Leu Trp  
1 5 10 15

Gly Phe Cys Trp Leu Val Val Gly Phe Trp Arg Ala Ala Phe Ala Cys  
20 25 30

Pro Thr Ser Cys Lys Cys Ser Ala Ser Arg Ile Trp Cys Ser Asp Pro  
35 40 45

Ser Pro Gly Ile Val Ala Phe Pro Arg Leu Glu Pro Asn Ser Val Asp  
50 55 60

Pro Glu Asn Ile Thr Glu Ile Phe Ile Ala Asn Gln Lys Arg Leu Glu  
65 70 75 80

Ile Ile Asn Glu Asp Asp Val Glu Ala Tyr Val Gly Leu Arg Asn Leu  
85 90 95

Thr Ile Val Asp Ser Gly Leu Lys Phe Val Ala His Lys Ala Phe Leu  
100 105 110

Lys Asn Ser Asn Leu Gln His Ile Asn Phe Thr Arg Asn Lys Leu Thr  
115 120 125

Ser Leu Ser Arg Lys His Phe Arg His Leu Asp Leu Ser Glu Leu Ile  
130 135 140

Leu Val Gly Asn Pro Phe Thr Cys Ser Cys Asp Ile Met Trp Ile Lys  
145 150 155 160

Thr Leu Gln Glu Ala Lys Ser Ser Pro Asp Thr Gln Asp Leu Tyr Cys  
165 170 175

Leu Asn Glu Ser Ser Lys Asn Ile Pro Leu Ala Asn Leu Gln Ile Pro  
 180 185 190

Asn Cys Gly Leu Pro Ser Ala Asn Leu Ala Ala Pro Asn Leu Thr Val  
 195 200 205

Glu Glu Gly Lys Ser Ile Thr Leu Ser Cys Ser Val Ala Gly Asp Pro  
 210 215 220

Val Pro Asn Met Tyr Trp Asp Val Gly Asn Leu Val Ser Lys His Met  
 225 230 235 240

Asn Glu Thr Ser His Thr Gln Gly Ser Leu Arg Ile Thr Asn Ile Ser  
 245 250 255

Ser Asp Asp Ser Gly Lys Gln Ile Ser Cys Val Ala Glu Asn Leu Val  
 260 265 270

Gly Glu Asp Gln Asp Ser Val Asn Leu Thr Val His Phe Ala Pro Thr  
 275 280 285

Ile Thr Phe Leu Glu Ser Pro Thr Ser Asp His His Trp Cys Ile Pro  
 290 295 300

Phe Thr Val Lys Gly Asn Pro Lys Pro Ala Leu Gln Trp Phe Tyr Asn  
 305 310 315 320

Gly Ala Ile Leu Asn Glu Ser Lys Tyr Ile Cys Thr Lys Ile His Val  
 325 330 335

Thr Asn His Thr Glu Tyr His Gly Cys Leu Gln Leu Asp Asn Pro Thr  
 340 345 350

His Met Asn Asn Gly Asp Tyr Thr Leu Ile Ala Lys Asn Glu Tyr Gly  
 355 360 365

Lys Asp Glu Lys Gln Ile Ser Ala His Phe Met Gly Trp Pro Gly Ile  
 370 375 380

Asp Asp Gly Ala Asn Pro Asn Tyr Pro Asp Val Ile Tyr Glu Asp Tyr  
 385 390 395 400

Gly Thr Ala Ala Asn Asp Ile Gly Asp Thr Thr Asn Arg Ser Asn Glu  
 405 410 415

Ile Pro Ser Thr Asp Val Thr Asp Lys Thr Gly Arg Glu His Leu Ser

420	425	430
Val Tyr Ala Val Val Val Ile Ala Ser Val Val Gly Phe Cys Leu Leu 435 440 445		
Val Met Leu Phe Leu Leu Lys Leu Ala Arg His Ser Lys Phe Gly Met 450 455 460		
Lys Gly Pro Ala Ser Val Ile Ser Asn Asp Asp Asp Ser Ala Ser Pro 465 470 475 480		
Leu His His Ile Ser Asn Gly Ser Asn Thr Pro Ser Ser Ser Glu Gly 485 490 495		
Gly Pro Asp Ala Val Ile Ile Gly Met Thr Lys Ile Pro Val Ile Glu 500 505 510		
Asn Pro Gln Tyr Phe Gly Ile Thr Asn Ser Gln Leu Lys Pro Asp Thr 515 520 525		
Phe Val Gln His Ile Lys Arg His Asn Ile Val Leu Lys Arg Glu Leu 530 535 540		
Gly Glu Gly Ala Phe Gly Lys Val Phe Leu Ala Glu Cys Tyr Asn Leu 545 550 555 560		
Cys Pro Glu Gln Asp Lys Ile Leu Val Ala Val Lys Thr Leu Lys Asp 565 570 575		
Ala Ser Asp Asn Ala Arg Lys Asp Phe His Arg Glu Ala Glu Leu Leu 580 585 590		
Thr Asn Leu Gln His Glu His Ile Val Lys Phe Tyr Gly Val Cys Val 595 600 605		
Glu Gly Asp Pro Leu Ile Met Val Phe Glu Tyr Met Lys His Gly Asp 610 615 620		
Leu Asn Lys Phe Leu Arg Ala His Gly Pro Asp Ala Val Leu Met Ala 625 630 635 640		
Glu Gly Asn Pro Pro Thr Glu Leu Thr Gln Ser Gln Met Leu His Ile 645 650 655		
Ala Gln Gln Ile Ala Ala Gly Met Val Tyr Leu Ala Ser Gln His Phe 660 665 670		



Val His Arg Asp Leu Ala Thr Arg Asn Cys Leu Val Gly Glu Asn Leu  
675 680 685

Leu Val Lys Ile Gly Asp Phe Gly Met Ser Arg Asp Val Tyr Ser Thr  
690 695 700

Asp Tyr Tyr Arg Val Gly Gly His Thr Met Leu Pro Ile Arg Trp Met  
705 710 715 720

Pro Pro Glu Ser Ile Met Tyr Arg Lys Phe Thr Thr Glu Ser Asp Val  
725 730 735

Trp Ser Leu Gly Val Val Leu Trp Glu Ile Phe Thr Tyr Gly Lys Gln  
740 745 750

Pro Trp Tyr Gln Leu Ser Asn Asn Glu Val Ile Glu Cys Ile Thr Gln  
755 760 765

Gly Arg Val Leu Gln Arg Pro Arg Thr Cys Pro Gln Glu Val Tyr Glu  
770 775 780

Leu Met Leu Gly Cys Trp Gln Arg Glu Pro His Met Arg Lys Asn Ile  
785 790 795 800

Lys Gly Ile His Thr Leu Leu Gln Asn Leu Ala Lys Ala Ser Pro Val  
805 810 815

Tyr Leu Asp Ile Leu Gly  
820

<210> 46

<211> 411

<212> PRT

<213> Homo sapiens

<400> 46

Met Lys Ala Ala Arg Phe Val Leu Arg Ser Ala Gly Ser Leu Asn Gly  
1 5 10 15

Ala Gly Leu Val Pro Arg Glu Val Glu His Phe Ser Arg Tyr Ser Pro  
20 25 30

Ser Pro Leu Ser Met Lys Gln Leu Leu Asp Phe Gly Ser Glu Asn Ala  
35 40 45

Cys Glu Arg Thr Ser Phe Ala Phe Leu Arg Gln Glu Leu Pro Val Arg  
50 55 60

Leu Ala Asn Ile Leu Lys Glu Ile Asp Ile Leu Pro Thr Gln Leu Val  
65 70 75 80

Asn Thr Ser Ser Val Gln Leu Val Lys Ser Trp Tyr Ile Gln Ser Leu  
85 90 95

Met Asp Leu Val Glu Phe His Glu Lys Ser Pro Asp Asp Gln Lys Ala  
100 105 110

Leu Ser Asp Phe Val Asp Thr Leu Ile Lys Val Arg Asn Arg His His  
115 120 125

Asn Val Val Pro Thr Met Ala Gln Gly Ile Ile Glu Tyr Lys Asp Ala  
130 135 140

Cys Thr Val Asp Pro Val Thr Asn Gln Asn Leu Gln Tyr Phe Leu Asp  
145 150 155 160

Arg Phe Tyr Met Asn Arg Ile Ser Thr Arg Met Leu Met Asn Gln His  
165 170 175

Ile Leu Ile Phe Ser Asp Ser Gln Thr Gly Asn Pro Ser His Ile Gly  
180 185 190

Ser Ile Asp Pro Asn Cys Asp Val Val Ala Val Val Gln Asp Ala Phe  
195 200 205

Glu Cys Ser Arg Met Leu Cys Asp Gln Tyr Tyr Leu Ser Ser Pro Glu  
210 215 220

Leu Lys Leu Thr Gln Val Asn Gly Lys Phe Pro Asp Gln Pro Ile His  
225 230 235 240

Ile Val Tyr Val Pro Ser His Leu His His Met Leu Phe Glu Leu Phe  
245 250 255

Lys Asn Ala Met Arg Ala Thr Val Glu His Gln Glu Asn Gln Pro Ser  
260 265 270

Leu Thr Pro Ile Glu Val Ile Val Val Leu Gly Lys Glu Asp Leu Thr  
275 280 285

Ile Lys Ile Ser Asp Arg Gly Gly Gly Val Pro Leu Arg Ile Ile Asp  
290 295 300

Arg Leu Phe Ser Tyr Thr Tyr Ser Thr Ala Pro Thr Pro Val Met Asp  
305 310 315 320

Asn Ser Arg Asn Ala Pro Leu Ala Gly Phe Gly Tyr Gly Leu Pro Ile  
325 330 335

Ser Arg Leu Tyr Ala Lys Tyr Phe Gln Gly Asp Leu Asn Leu Tyr Ser  
340 345 350

Leu Ser Gly Tyr Gly Thr Asp Ala Ile Ile Tyr Leu Lys Ala Leu Ser  
355 360 365

Ser Glu Ser Ile Glu Lys Leu Pro Val Phe Asn Lys Ser Ala Phe Lys  
370 375 380

His Tyr Gln Met Ser Ser Glu Ala Asp Asp Trp Cys Ile Pro Ser Arg  
385 390 395 400

Glu Pro Lys Asn Leu Ala Lys Glu Val Ala Met  
405 410

<210> 47  
<211> 499  
<212> PRT  
<213> Homo sapiens

<400> 47

Met Leu Glu Arg Pro Pro Ala Leu Ala Met Pro Met Pro Thr Glu Gly  
1 5 10 15

Thr Pro Pro Pro Leu Ser Gly Thr Pro Ile Pro Val Pro Ala Tyr Phe  
20 25 30

Arg His Ala Glu Pro Gly Phe Ser Leu Lys Arg Pro Arg Gly Leu Ser  
35 40 45

Arg Ser Leu Pro Pro Pro Pro Pro Ala Lys Gly Ser Ile Pro Ile Ser  
50 55 60

Arg Leu Phe Pro Pro Arg Thr Pro Gly Trp His Gln Leu Gln Pro Arg  
65 70 75 80

Arg Val Ser Phe Arg Gly Glu Ala Ser Glu Thr Leu Gln Ser Pro Gly  
85 90 95

Tyr Asp Pro Ser Arg Pro Glu Ser Phe Phe Gln Gln Ser Phe Gln Arg  
100 105 110

Leu Ser Arg Leu Gly His Gly Ser Tyr Gly Glu Val Phe Lys Val Arg  
 115 120 125

Ser Lys Glu Asp Gly Arg Leu Tyr Ala Val Lys Arg Ser Met Ser Pro  
 130 135 140

Phe Arg Gly Pro Lys Asp Arg Ala Arg Lys Leu Ala Glu Val Gly Ser  
 145 150 155 160

His Glu Lys Val Gly Gln His Pro Cys Cys Val Arg Leu Glu Gln Ala  
 165 170 175

Trp Glu Glu Gly Gly Ile Leu Tyr Leu Gln Thr Glu Leu Cys Gly Pro  
 180 185 190

Ser Leu Gln Gln His Cys Glu Ala Trp Gly Ala Ser Leu Pro Glu Ala  
 195 200 205

Gln Val Trp Gly Tyr Leu Arg Asp Thr Leu Leu Ala Leu Ala His Leu  
 210 215 220

His Ser Gln Gly Leu Val His Leu Asp Val Lys Pro Ala Asn Ile Phe  
 225 230 235 240

Leu Gly Pro Arg Gly Arg Cys Lys Leu Gly Asp Phe Gly Leu Leu Val  
 245 250 255

Glu Leu Gly Thr Ala Gly Ala Gly Glu Val Gln Glu Gly Asp Pro Arg  
 260 265 270

Tyr Met Ala Pro Glu Leu Leu Gln Gly Ser Tyr Gly Thr Ala Ala Asp  
 275 280 285

Val Phe Ser Leu Gly Leu Thr Ile Leu Glu Val Ala Cys Asn Met Glu  
 290 295 300

Leu Pro His Gly Gly Glu Gly Trp Gln Gln Leu Arg Gln Gly Tyr Leu  
 305 310 315 320

Pro Pro Glu Phe Thr Ala Gly Leu Ser Ser Glu Leu Arg Ser Val Leu  
 325 330 335

Val Met Met Leu Glu Pro Asp Pro Lys Leu Arg Ala Thr Ala Glu Ala  
 340 345 350

Leu Leu Ala Leu Pro Val Leu Arg Gln Pro Arg Ala Trp Gly Val Leu

355                                      360                                      365  
 Trp Cys Met Ala Ala Glu Ala Leu Ser Arg Gly Trp Ala Leu Trp Gln  
     370                                      375                                      380  
 Ala Leu Leu Ala Leu Leu Cys Trp Leu Trp His Gly Leu Ala His Pro  
     385                                      390                                      395                                      400  
 Ala Ser Trp Leu Gln Pro Leu Gly Pro Pro Ala Thr Pro Pro Gly Ser  
                                     405                                      410                                      415  
 Pro Pro Cys Ser Leu Leu Leu Asp Ser Ser Leu Ser Ser Asn Trp Asp  
                                     420                                      425                                      430  
 Asp Asp Ser Leu Gly Pro Ser Leu Ser Pro Glu Ala Val Leu Ala Arg  
                                     435                                      440                                      445  
 Thr Val Gly Ser Thr Ser Thr Pro Arg Ser Arg Cys Thr Pro Arg Asp  
                                     450                                      455                                      460  
 Ala Leu Asp Leu Ser Asp Ile Asn Ser Glu Pro Pro Arg Gly Ser Phe  
     465                                      470                                      475                                      480  
 Pro Ser Phe Glu Pro Arg Asn Leu Leu Ser Leu Phe Glu Asp Thr Leu  
                                     485                                      490                                      495

Asp Pro Thr

<210> 48  
 <211> 351  
 <212> PRT  
 <213> Homo sapiens

<400> 48

Met Gly Asn Ala Ala Thr Ala Lys Lys Gly Ser Glu Val Glu Ser Val  
 1                                      5                                      10                                      15

Lys Glu Phe Leu Ala Lys Ala Lys Glu Asp Phe Leu Lys Lys Trp Glu  
                                     20                                      25                                      30

Asn Pro Thr Gln Asn Asn Ala Gly Leu Glu Asp Phe Glu Arg Lys Lys  
                                     35                                      40                                      45

Thr Leu Gly Thr Gly Ser Phe Gly Arg Val Met Leu Val Lys His Lys  
                                     50                                      55                                      60

Ala Thr Glu Gln Tyr Tyr Ala Met Lys Ile Leu Asp Lys Gln Lys Val  
 65 70 75 80

Val Lys Leu Lys Gln Ile Glu His Thr Leu Asn Glu Lys Arg Ile Leu  
 85 90 95

Gln Ala Val Asn Phe Pro Phe Leu Val Arg Leu Glu Tyr Ala Phe Lys  
 100 105 110

Asp Asn Ser Asn Leu Tyr Met Val Met Glu Tyr Val Pro Gly Gly Glu  
 115 120 125

Met Phe Ser His Leu Arg Arg Ile Gly Arg Phe Ser Glu Pro His Ala  
 130 135 140

Arg Phe Tyr Ala Ala Gln Ile Val Leu Thr Phe Glu Tyr Leu His Ser  
 145 150 155 160

Leu Asp Leu Ile Tyr Arg Asp Leu Lys Pro Glu Asn Leu Leu Ile Asp  
 165 170 175

His Gln Gly Tyr Ile Gln Val Thr Asp Phe Gly Phe Ala Lys Arg Val  
 180 185 190

Lys Gly Arg Thr Trp Thr Leu Cys Gly Thr Pro Glu Tyr Leu Ala Pro  
 195 200 205

Glu Ile Ile Leu Ser Lys Gly Tyr Asn Lys Ala Val Asp Trp Trp Ala  
 210 215 220

Leu Gly Val Leu Ile Tyr Glu Met Ala Ala Gly Tyr Pro Pro Phe Phe  
 225 230 235 240

Ala Asp Gln Pro Ile Gln Ile Tyr Glu Lys Ile Val Ser Gly Lys Val  
 245 250 255

Arg Phe Pro Ser His Phe Ser Ser Asp Leu Lys Asp Leu Leu Arg Asn  
 260 265 270

Leu Leu Gln Val Asp Leu Thr Lys Arg Phe Gly Asn Leu Lys Asn Gly  
 275 280 285

Val Ser Asp Ile Lys Thr His Lys Trp Phe Ala Thr Thr Asp Trp Ile  
 290 295 300

Ala Ile Tyr Gln Arg Lys Val Glu Ala Pro Phe Ile Pro Lys Phe Arg  
 305 310 315 320

Gln Gln Gly Tyr Ile Gln Val Thr Asp Phe Gly Phe Ala Lys Arg Val

180 185 190  
 Lys Gly Arg Thr Trp Thr Leu Cys Gly Thr Pro Glu Tyr Leu Ala Pro  
 195 200 205  
 Glu Ile Ile Leu Ser Lys Gly Tyr Asn Lys Ala Val Asp Trp Trp Ala  
 210 215 220  
 Leu Gly Val Leu Ile Tyr Glu Met Ala Ala Gly Tyr Pro Pro Phe Phe  
 225 230 235 240  
 Ala Asp Gln Pro Ile Gln Ile Tyr Glu Lys Ile Val Ser Gly Lys Val  
 245 250 255  
 Arg Phe Pro Ser His Phe Ser Ser Asp Leu Lys Asp Leu Leu Arg Asn  
 260 265 270  
 Leu Leu Gln Val Asp Leu Thr Lys Arg Phe Gly Asn Leu Lys Asn Gly  
 275 280 285  
 Val Asn Asp Ile Lys Asn His Lys Trp Phe Ala Thr Thr Asp Trp Ile  
 290 295 300  
 Ala Ile Tyr Gln Arg Lys Val Glu Ala Pro Phe Ile Pro Lys Phe Lys  
 305 310 315 320  
 Gly Pro Gly Asp Thr Ser Asn Phe Asp Asp Tyr Glu Glu Glu Glu Ile  
 325 330 335  
 Arg Val Ser Ile Asn Glu Lys Cys Gly Lys Glu Phe Ser Glu Phe  
 340 345 350  
 <210> 50  
 <211> 672  
 <212> PRT  
 <213> Homo sapiens  
 <400> 50  
 Met Ala Asp Val Phe Pro Gly Asn Asp Ser Thr Ala Ser Gln Asp Val  
 1 5 10 15  
 Ala Asn Arg Phe Ala Arg Lys Gly Ala Leu Arg Gln Lys Asn Val His  
 20 25 30  
 Glu Val Lys Asp His Lys Phe Ile Ala Arg Phe Phe Lys Gln Pro Thr  
 35 40 45



Phe Cys Ser His Cys Thr Asp Phe Ile Trp Gly Phe Gly Lys Gln Gly  
 50 55 60

Phe Gln Cys Gln Val Cys Cys Phe Val Val His Lys Arg Cys His Glu  
 65 70 75 80

Phe Val Thr Phe Ser Cys Pro Gly Ala Asp Lys Gly Pro Asp Thr Asp  
 85 90 95

Asp Pro Arg Ser Lys His Lys Phe Lys Ile His Thr Tyr Gly Ser Pro  
 100 105 110

Thr Phe Cys Asp His Cys Gly Ser Leu Leu Tyr Gly Leu Ile His Gln  
 115 120 125

Gly Met Lys Cys Asp Thr Cys Asp Met Asn Val His Lys Gln Cys Val  
 130 135 140

Ile Asn Val Pro Ser Leu Cys Gly Met Asp His Thr Glu Lys Arg Gly  
 145 150 155 160

Arg Ile Tyr Leu Lys Ala Glu Val Ala Asp Glu Lys Leu His Val Thr  
 165 170 175

Val Arg Asp Ala Lys Asn Leu Ile Pro Met Asp Pro Asn Gly Leu Ser  
 180 185 190

Asp Pro Tyr Val Lys Leu Lys Leu Ile Pro Asp Pro Lys Asn Glu Ser  
 195 200 205

Lys Gln Lys Thr Lys Thr Ile Arg Ser Thr Leu Asn Pro Gln Trp Asn  
 210 215 220

Glu Ser Phe Thr Phe Lys Leu Lys Pro Ser Asp Lys Asp Arg Arg Leu  
 225 230 235 240

Ser Val Glu Ile Trp Asp Trp Asp Arg Thr Thr Arg Asn Asp Phe Met  
 245 250 255

Gly Ser Leu Ser Phe Gly Val Ser Glu Leu Met Lys Met Pro Ala Ser  
 260 265 270

Gly Trp Tyr Lys Leu Leu Asn Gln Glu Glu Gly Glu Tyr Tyr Asn Val  
 275 280 285

Pro Ile Pro Glu Gly Asp Glu Glu Gly Asn Met Glu Leu Arg Gln Lys  
 290 295 300

Phe Glu Lys Ala Lys Leu Gly Pro Ala Gly Asn Lys Val Ile Ser Pro  
305 310 315 320

Ser Glu Asp Arg Lys Gln Pro Ser Asn Asn Leu Asp Arg Val Lys Leu  
325 330 335

Thr Asp Phe Asn Phe Leu Met Val Leu Gly Lys Gly Ser Phe Gly Lys  
340 345 350

Val Met Leu Ala Asp Arg Lys Gly Thr Glu Glu Leu Tyr Ala Ile Lys  
355 360 365

Ile Leu Lys Lys Asp Val Val Ile Gln Asp Asp Asp Val Glu Cys Thr  
370 375 380

Met Val Glu Lys Arg Val Leu Ala Leu Leu Asp Lys Pro Pro Phe Leu  
385 390 395 400

Thr Gln Leu His Ser Cys Phe Gln Thr Val Asp Arg Leu Tyr Phe Val  
405 410 415

Met Glu Tyr Val Asn Gly Gly Asp Leu Met Tyr His Ile Gln Gln Val  
420 425 430

Gly Lys Phe Lys Glu Pro Gln Ala Val Phe Tyr Ala Ala Glu Ile Ser  
435 440 445

Ile Gly Leu Phe Phe Leu His Lys Arg Gly Ile Ile Tyr Arg Asp Leu  
450 455 460

Lys Leu Asp Asn Val Met Leu Asp Ser Glu Gly His Ile Lys Ile Ala  
465 470 475 480

Asp Phe Gly Met Cys Lys Glu His Met Met Asp Gly Val Thr Thr Arg  
485 490 495

Thr Phe Cys Gly Thr Pro Asp Tyr Ile Ala Pro Glu Ile Ile Ala Tyr  
500 505 510

Gln Pro Tyr Gly Lys Ser Val Asp Trp Trp Ala Tyr Gly Val Leu Leu  
515 520 525

Tyr Glu Met Leu Ala Gly Gln Pro Pro Phe Asp Gly Glu Asp Glu Asp  
530 535 540

Glu Leu Phe Gln Ser Ile Met Glu His Asn Val Ser Tyr Pro Lys Ser  
545 550 555 560

Leu Ser Lys Glu Ala Val Ser Ile Cys Lys Gly Leu Met Thr Lys His  
565 570 575

Pro Ala Lys Arg Leu Gly Cys Gly Pro Glu Gly Glu Arg Asp Val Arg  
580 585 590

Glu His Ala Phe Phe Arg Arg Ile Asp Trp Glu Lys Leu Glu Asn Arg  
595 600 605

Glu Ile Gln Pro Pro Phe Lys Pro Lys Val Cys Gly Lys Gly Ala Glu  
610 615 620

Asn Phe Asp Lys Phe Phe Thr Arg Gly Gln Pro Val Leu Thr Pro Pro  
625 630 635 640

Asp Gln Leu Val Ile Ala Asn Ile Asp Gln Ser Asp Phe Glu Gly Phe  
645 650 655

Ser Tyr Val Asn Pro Gln Phe Val His Pro Ile Leu Gln Ser Ala Val  
660 665 670

<210> 51  
<211> 676  
<212> PRT  
<213> Homo sapiens

<400> 51

Met Ala Pro Phe Leu Arg Ile Ala Phe Asn Ser Tyr Glu Leu Gly Ser  
1 5 10 15

Leu Gln Ala Glu Asp Glu Ala Asn Gln Pro Phe Cys Ala Val Lys Met  
20 25 30

Lys Glu Ala Leu Ser Thr Glu Arg Gly Lys Thr Leu Val Gln Lys Lys  
35 40 45

Pro Thr Met Tyr Pro Glu Trp Lys Ser Thr Phe Asp Ala His Ile Tyr  
50 55 60

Glu Gly Arg Val Ile Gln Ile Val Leu Met Arg Ala Ala Glu Glu Pro  
65 70 75 80

Val Ser Glu Val Thr Val Gly Val Ser Val Leu Ala Glu Arg Cys Lys  
85 90 95

Lys Asn Asn Gly Lys Ala Glu Phe Trp Leu Asp Leu Gln Pro Gln Ala  
 100 105 110

Lys Val Leu Met Ser Val Gln Tyr Phe Leu Glu Asp Val Asp Cys Lys  
 115 120 125

Gln Ser Met Arg Ser Glu Asp Glu Ala Lys Phe Pro Thr Met Asn Arg  
 130 135 140

Arg Gly Ala Ile Lys Gln Ala Lys Ile His Tyr Ile Lys Asn His Glu  
 145 150 155 160

Phe Ile Ala Thr Phe Phe Gly Gln Pro Thr Phe Cys Ser Val Cys Lys  
 165 170 175

Asp Phe Val Trp Gly Leu Asn Lys Gln Gly Tyr Lys Cys Arg Gln Cys  
 180 185 190

Asn Ala Ala Ile His Lys Lys Cys Ile Asp Lys Ile Ile Gly Arg Cys  
 195 200 205

Thr Gly Thr Ala Ala Asn Ser Arg Asp Thr Ile Phe Gln Lys Glu Arg  
 210 215 220

Phe Asn Ile Asp Met Pro His Arg Phe Lys Val His Asn Tyr Met Ser  
 225 230 235 240

Pro Thr Phe Cys Asp His Cys Gly Ser Leu Leu Trp Gly Leu Val Lys  
 245 250 255

Gln Gly Leu Lys Cys Glu Asp Cys Gly Met Asn Val His His Lys Cys  
 260 265 270

Arg Glu Lys Val Ala Asn Leu Cys Gly Ile Asn Gln Lys Leu Leu Ala  
 275 280 285

Glu Ala Leu Asn Gln Val Thr Gln Arg Ala Ser Arg Arg Ser Asp Ser  
 290 295 300

Ala Ser Ser Glu Pro Val Gly Ile Tyr Gln Gly Phe Glu Lys Lys Thr  
 305 310 315 320

Gly Val Ala Gly Glu Asp Met Gln Asp Asn Ser Gly Thr Tyr Gly Lys  
 325 330 335

Ile Trp Glu Gly Ser Ser Lys Cys Asn Ile Asn Asn Phe Ile Phe His

340	345	350
Lys Val Leu Gly Lys Gly Ser Phe Gly Lys Val Leu Leu Gly Glu Leu 355 360 365		
Lys Gly Arg Gly Glu Tyr Ser Ala Ile Lys Ala Leu Lys Lys Asp Val 370 375 380		
Val Leu Ile Asp Asp Asp Val Glu Cys Thr Met Val Glu Lys Arg Val 385 390 395 400		
Leu Thr Leu Ala Ala Glu Asn Pro Phe Leu Thr His Leu Ile Cys Thr 405 410 415		
Phe Gln Thr Lys Asp His Leu Phe Phe Val Met Glu Phe Leu Asn Gly 420 425 430		
Gly Asp Leu Met Tyr His Ile Gln Asp Lys Gly Arg Phe Glu Leu Tyr 435 440 445		
Arg Ala Thr Phe Tyr Ala Ala Glu Ile Met Cys Gly Leu Gln Phe Leu 450 455 460		
His Ser Lys Gly Ile Ile Tyr Arg Asp Leu Lys Leu Asp Asn Val Leu 465 470 475 480		
Leu Asp Arg Asp Gly His Ile Lys Ile Ala Asp Phe Gly Met Cys Lys 485 490 495		
Glu Asn Ile Phe Gly Glu Ser Arg Ala Ser Thr Phe Cys Gly Thr Pro 500 505 510		
Asp Tyr Ile Ala Pro Glu Ile Leu Gln Gly Leu Lys Tyr Thr Phe Ser 515 520 525		
Val Asp Trp Trp Ser Phe Gly Val Leu Leu Tyr Glu Met Leu Ile Gly 530 535 540		
Gln Ser Pro Phe His Gly Asp Asp Glu Asp Glu Leu Phe Glu Ser Ile 545 550 555 560		
Arg Val Asp Thr Pro His Tyr Pro Arg Trp Ile Thr Lys Glu Ser Lys 565 570 575		
Asp Ile Leu Glu Lys Leu Phe Glu Arg Glu Pro Thr Lys Arg Leu Gly 580 585 590		

Met Thr Gly Asn Ile Lys Ile His Pro Phe Phe Lys Thr Ile Asn Trp  
595 600 605

Thr Leu Leu Glu Lys Arg Arg Leu Glu Pro Pro Phe Arg Pro Lys Val  
610 615 620

Lys Ser Pro Arg Asp Tyr Ser Asn Phe Asp Gln Glu Phe Leu Asn Glu  
625 630 635 640

Lys Ala Arg Leu Ser Tyr Ser Asp Lys Asn Leu Ile Asp Ser Met Asp  
645 650 655

Gln Ser Ala Phe Ala Gly Phe Ser Phe Val Asn Pro Lys Phe Glu His  
660 665 670

Leu Leu Glu Asp  
675

<210> 52  
<211> 349  
<212> PRT  
<213> Homo sapiens

<400> 52

Met Ala His Gln Thr Gly Ile His Ala Thr Glu Glu Leu Lys Glu Phe  
1 5 10 15

Phe Ala Lys Ala Arg Ala Gly Ser Val Arg Leu Ile Lys Val Val Ile  
20 25 30

Glu Asp Glu Gln Leu Val Leu Gly Ala Ser Gln Glu Pro Val Gly Arg  
35 40 45

Trp Asp Gln Asp Tyr Asp Arg Ala Val Leu Pro Leu Leu Asp Ala Gln  
50 55 60

Gln Pro Cys Tyr Leu Leu Tyr Arg Leu Asp Ser Gln Asn Ala Gln Gly  
65 70 75 80

Phe Glu Trp Leu Phe Leu Ala Trp Ser Pro Asp Asn Ser Pro Val Arg  
85 90 95

Leu Lys Met Leu Tyr Ala Ala Thr Arg Ala Thr Val Lys Lys Glu Phe  
100 105 110

Gly Gly Gly His Ile Lys Asp Glu Leu Phe Gly Thr Val Lys Asp Asp  
115 120 125

Leu Ser Phe Ala Gly Tyr Gln Lys His Leu Ser Ser Cys Ala Ala Pro  
 130 135 140

Ala Pro Leu Thr Ser Ala Glu Arg Glu Leu Gln Gln Ile Arg Ile Asn  
 145 150 155 160

Glu Val Lys Thr Glu Ile Ser Val Glu Ser Lys His Gln Thr Leu Gln  
 165 170 175

Gly Leu Ala Phe Pro Leu Gln Pro Glu Ala Gln Arg Ala Leu Gln Gln  
 180 185 190

Leu Lys Gln Lys Met Val Asn Tyr Ile Gln Met Lys Leu Asp Leu Glu  
 195 200 205

Arg Glu Thr Ile Glu Leu Val His Thr Glu Pro Thr Asp Val Ala Gln  
 210 215 220

Leu Pro Ser Arg Val Pro Arg Asp Ala Ala Arg Tyr His Phe Phe Leu  
 225 230 235 240

Tyr Lys His Thr His Glu Gly Asp Pro Leu Glu Ser Val Val Phe Ile  
 245 250 255

Tyr Ser Met Pro Gly Tyr Lys Cys Ser Ile Lys Glu Arg Met Leu Tyr  
 260 265 270

Ser Ser Cys Lys Ser Arg Leu Leu Asp Ser Val Glu Gln Asp Phe His  
 275 280 285

Leu Glu Ile Ala Lys Lys Ile Glu Ile Gly Asp Gly Ala Glu Leu Thr  
 290 295 300

Ala Glu Phe Leu Tyr Asp Glu Val His Pro Lys Gln His Ala Phe Lys  
 305 310 315 320

Gln Ala Phe Ala Lys Pro Lys Gly Pro Gly Gly Lys Arg Gly His Lys  
 325 330 335

Arg Leu Ile Arg Gly Pro Gly Glu Asn Gly Asp Asp Ser  
 340 345

<210> 53

<211> 350

<212> PRT

<213> Homo sapiens

&lt;400&gt; 53

Met Ser His Gln Thr Gly Ile Gln Ala Ser Glu Asp Val Lys Glu Ile  
1 5 10 15

Phe Ala Arg Ala Arg Asn Gly Lys Tyr Arg Leu Leu Lys Ile Ser Ile  
20 25 30

Glu Asn Glu Gln Leu Val Ile Gly Ser Tyr Ser Gln Pro Ser Asp Ser  
35 40 45

Trp Asp Lys Asp Tyr Asp Ser Phe Val Leu Pro Leu Leu Glu Asp Lys  
50 55 60

Gln Pro Cys Tyr Ile Leu Phe Arg Leu Asp Ser Gln Asn Ala Gln Gly  
65 70 75 80

Tyr Glu Trp Ile Phe Ile Ala Trp Ser Pro Asp His Ser His Val Arg  
85 90 95

Gln Lys Met Leu Tyr Ala Ala Thr Arg Ala Thr Leu Lys Lys Glu Phe  
100 105 110

Gly Gly Gly His Ile Lys Asp Glu Val Phe Gly Thr Val Lys Glu Asp  
115 120 125

Val Ser Leu His Gly Tyr Lys Lys Tyr Leu Leu Ser Gln Ser Ser Pro  
130 135 140

Ala Pro Leu Thr Ala Ala Glu Glu Glu Leu Arg Gln Ile Lys Ile Asn  
145 150 155 160

Glu Val Gln Thr Asp Val Gly Val Asp Thr Lys His Gln Thr Leu Gln  
165 170 175

Gly Val Ala Phe Pro Ile Ser Arg Glu Ala Phe Gln Ala Leu Glu Lys  
180 185 190

Leu Asn Asn Arg Gln Leu Asn Tyr Val Gln Leu Glu Ile Asp Ile Lys  
195 200 205

Asn Glu Ile Ile Ile Leu Ala Asn Thr Thr Asn Thr Glu Leu Lys Asp  
210 215 220

Leu Pro Lys Arg Ile Pro Lys Asp Ser Ala Arg Tyr His Phe Phe Leu  
225 230 235 240





Asp Trp Asn Thr Asp Ala Ala Ser Leu Ile Gly Glu Glu Leu Gln Val  
 115 120 125

Asp Phe Leu Asp His Val Pro Leu Thr Thr His Asn Phe Ala Arg Lys  
 130 135 140

Thr Phe Leu Lys Leu Ala Phe Cys Asp Ile Cys Gln Lys Phe Leu Leu  
 145 150 155 160

Asn Gly Phe Arg Cys Gln Thr Cys Gly Tyr Lys Phe His Glu His Cys  
 165 170 175

Ser Thr Lys Val Pro Thr Met Cys Val Asp Trp Ser Asn Ile Arg Gln  
 180 185 190

Leu Leu Leu Phe Pro Asn Ser Thr Ile Gly Asp Ser Gly Val Pro Ala  
 195 200 205

Leu Pro Ser Leu Thr Met Arg Arg Met Arg Glu Ser Val Ser Arg Met  
 210 215 220

Pro Val Ser Ser Gln His Arg Tyr Ser Thr Pro His Ala Phe Thr Phe  
 225 230 235 240

Asn Thr Ser Ser Pro Ser Ser Glu Gly Ser Leu Ser Gln Arg Gln Arg  
 245 250 255

Ser Thr Ser Thr Pro Asn Val His Met Val Ser Thr Thr Leu Pro Val  
 260 265 270

Asp Ser Arg Met Ile Glu Asp Ala Ile Arg Ser His Ser Glu Ser Ala  
 275 280 285

Ser Pro Ser Ala Leu Ser Ser Ser Pro Asn Asn Leu Ser Pro Thr Gly  
 290 295 300

Trp Ser Gln Pro Lys Thr Pro Val Pro Ala Gln Arg Glu Arg Ala Pro  
 305 310 315 320

Val Ser Gly Thr Gln Glu Lys Asn Lys Ile Arg Pro Arg Gly Gln Arg  
 325 330 335

Asp Ser Ser Tyr Tyr Trp Glu Ile Glu Ala Ser Glu Val Met Leu Ser  
 340 345 350

Thr Arg Ile Gly Ser Gly Ser Phe Gly Thr Val Tyr Lys Gly Lys Trp  
 355 360 365

His Gly Asp Val Ala Val Lys Ile Leu Lys Val Val Asp Pro Thr Pro  
 370 375 380

Glu Gln Phe Gln Ala Phe Arg Asn Glu Val Ala Val Leu Arg Lys Thr  
 385 390 395 400

Arg His Val Asn Ile Leu Leu Phe Met Gly Tyr Met Thr Lys Asp Asn  
 405 410 415

Leu Ala Ile Val Thr Gln Trp Cys Glu Gly Ser Ser Leu Tyr Lys His  
 420 425 430

Leu His Val Gln Glu Thr Lys Phe Gln Met Phe Gln Leu Ile Asp Ile  
 435 440 445

Ala Arg Gln Thr Ala Gln Gly Met Asp Tyr Leu His Ala Lys Asn Ile  
 450 455 460

Ile His Arg Asp Met Lys Ser Asn Asn Ile Phe Leu His Glu Gly Leu  
 465 470 475 480

Thr Val Lys Ile Gly Asp Phe Gly Leu Ala Thr Val Lys Ser Arg Trp  
 485 490 495

Ser Gly Ser Gln Gln Val Glu Gln Pro Thr Gly Ser Val Leu Trp Met  
 500 505 510

Ala Pro Glu Val Ile Arg Met Gln Asp Asn Asn Pro Phe Ser Phe Gln  
 515 520 525

Ser Asp Val Tyr Ser Tyr Gly Ile Val Leu Tyr Glu Leu Met Thr Gly  
 530 535 540

Glu Leu Pro Tyr Ser His Ile Asn Asn Arg Asp Gln Ile Ile Phe Met  
 545 550 555 560

Val Gly Arg Gly Tyr Ala Ser Pro Asp Leu Ser Lys Leu Tyr Lys Asn  
 565 570 575

Cys Pro Lys Ala Met Lys Arg Leu Val Ala Asp Cys Val Lys Lys Val  
 580 585 590

Lys Glu Glu Arg Pro Leu Phe Pro Gln Ile Leu Ser Ser Ile Glu Leu  
 595 600 605

Leu Gln His Ser Leu Pro Lys Ile Asn Arg Ser Ala Ser Glu Pro Ser  
610 615 620

Leu His Arg Ala Ala His Thr Glu Asp Ile Asn Ala Cys Thr Leu Thr  
625 630 635 640

Thr Ser Pro Arg Leu Pro Val Phe  
645

<210> 55  
<211> 431  
<212> PRT  
<213> Homo sapiens

<400> 55

Met Ala His Ser Pro Val Gln Ser Gly Leu Pro Gly Met Gln Asn Leu  
1 5 10 15

Lys Ala Asp Pro Glu Glu Leu Phe Thr Lys Leu Glu Lys Ile Gly Lys  
20 25 30

Gly Ser Phe Gly Glu Val Phe Lys Gly Ile Asp Asn Arg Thr Gln Lys  
35 40 45

Val Val Ala Ile Lys Ile Ile Asp Leu Glu Glu Ala Glu Asp Glu Ile  
50 55 60

Glu Asp Ile Gln Gln Glu Ile Thr Val Leu Ser Gln Cys Asp Ser Pro  
65 70 75 80

Tyr Val Thr Lys Tyr Tyr Gly Ser Tyr Leu Lys Asp Thr Lys Leu Trp  
85 90 95

Ile Ile Met Glu Tyr Leu Gly Gly Gly Ser Ala Leu Asp Leu Leu Glu  
100 105 110

Pro Gly Pro Leu Asp Glu Thr Gln Ile Ala Thr Ile Leu Arg Glu Ile  
115 120 125

Leu Lys Gly Leu Asp Tyr Leu His Ser Glu Lys Lys Ile His Arg Asp  
130 135 140

Ile Lys Ala Ala Asn Val Leu Leu Ser Glu His Gly Glu Val Lys Leu  
145 150 155 160  
0

Ala Asp Phe Gly Val Ala Gly Gln Leu Thr Asp Thr Gln Ile Lys Arg

109

Arg Leu Gln Arg Tyr Ser Leu Ser Gly Gly Gly Thr Ser Ser His  
 420 425 430

<210> 56  
 <211> 426  
 <212> PRT  
 <213> Homo sapiens

<400> 56

Met Ala His Leu Arg Gly Phe Ala Asn Gln His Ser Arg Val Asp Pro  
 1 5 10 15

Glu Glu Leu Phe Thr Lys Leu Asp Arg Ile Gly Lys Gly Ser Phe Gly  
 20 25 30

Glu Val Tyr Lys Gly Ile Asp Asn His Thr Lys Glu Val Val Ala Ile  
 35 40 45

Lys Ile Ile Asp Leu Glu Glu Ala Glu Asp Glu Ile Glu Asp Ile Gln  
 50 55 60

Gln Glu Ile Thr Val Leu Ser Gln Cys Asp Ser Pro Tyr Ile Thr Arg  
 65 70 75 80

Tyr Phe Gly Ser Tyr Leu Lys Ser Thr Lys Leu Trp Ile Ile Met Glu  
 85 90 95

Tyr Leu Gly Gly Gly Ser Ala Leu Asp Leu Leu Lys Pro Gly Pro Leu  
 100 105 110

Glu Glu Thr Tyr Ile Ala Thr Ile Leu Arg Glu Ile Leu Lys Gly Leu  
 115 120 125

Asp Tyr Leu His Ser Glu Arg Lys Ile His Arg Asp Ile Lys Ala Ala  
 130 135 140

Asn Val Leu Leu Ser Glu Gln Gly Asp Val Lys Leu Ala Asp Phe Gly  
 145 150 155 160

Val Ala Gly Gln Leu Thr Asp Thr Gln Ile Lys Arg Asn Thr Phe Val  
 165 170 175

Gly Thr Pro Phe Trp Met Ala Pro Glu Val Ile Lys Gln Ser Ala Tyr  
 180 185 190

Asp Phe Lys Ala Asp Ile Trp Ser Leu Gly Ile Thr Ala Ile Glu Leu  
 195 200 205

Ala Lys Gly Glu Pro Pro Asn Ser Asp Leu His Pro Met Arg Val Leu  
 210 215 220  
 Phe Leu Ile Pro Lys Asn Ser Pro Pro Thr Leu Glu Gly Gln His Ser  
 225 230 235 240  
 Lys Pro Phe Lys Glu Phe Val Glu Ala Cys Leu Asn Lys Asp Pro Arg  
 245 250 255  
 Phe Arg Pro Thr Ala Lys Glu Leu Leu Lys His Lys Phe Ile Thr Arg  
 260 265 270  
 Tyr Thr Lys Lys Thr Ser Phe Leu Thr Glu Leu Ile Asp Arg Tyr Lys  
 275 280 285  
 Arg Trp Lys Ser Glu Gly His Gly Glu Glu Ser Ser Ser Glu Asp Ser  
 290 295 300  
 Asp Ile Asp Gly Glu Ala Glu Asp Gly Glu Gln Gly Pro Ile Trp Thr  
 305 310 315 320  
 Phe Pro Pro Thr Ile Arg Pro Ser Pro His Ser Lys Leu His Lys Gly  
 325 330 335  
 Thr Ala Leu His Ser Ser Gln Lys Pro Ala Asp Ala Val Lys Arg Gln  
 340 345 350  
 Pro Arg Ser Gln Cys Leu Ser Thr Leu Val Arg Pro Val Phe Gly Glu  
 355 360 365  
 Leu Lys Glu Lys His Lys Gln Ser Gly Gly Ser Val Gly Ala Leu Glu  
 370 375 380  
 Glu Leu Glu Asn Ala Phe Ser Leu Ala Glu Glu Ser Cys Pro Gly Ile  
 385 390 395 400  
 Ser Asp Lys Leu Met Val His Leu Val Glu Arg Val Gln Arg Phe Ser  
 405 410 415  
 His Asn Arg Asn His Leu Thr Ser Thr Arg  
 420 425

<210> 57  
 <211> 463  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 57

Ala Met Thr Ala Gly Thr Thr Thr Thr Phe Pro Met Ser Asn His Thr  
 1 5 10 15

Arg Glu Arg Val Thr Val Ala Lys Leu Thr Leu Glu Asn Phe Tyr Ser  
 20 25 30

Asn Leu Ile Leu Gln His Glu Glu Arg Glu Thr Arg Gln Lys Lys Leu  
 35 40 45

Glu Val Ala Met Glu Glu Glu Gly Leu Ala Asp Glu Glu Lys Lys Leu  
 50 55 60

Arg Arg Ser Gln His Ala Arg Lys Glu Thr Glu Phe Leu Arg Leu Lys  
 65 70 75 80

Arg Thr Arg Leu Gly Leu Asp Asp Phe Glu Ser Leu Lys Val Ile Gly  
 85 90 95

Arg Gly Ala Phe Gly Glu Val Arg Leu Val Gln Lys Lys Asp Thr Gly  
 100 105 110

His Ile Tyr Ala Met Lys Ile Leu Arg Lys Ser Asp Met Leu Glu Lys  
 115 120 125

Glu Gln Val Ala His Ile Arg Ala Glu Arg Asp Ile Leu Val Glu Ala  
 130 135 140

Asp Gly Ala Trp Val Val Lys Met Phe Tyr Ser Phe Gln Asp Lys Arg  
 145 150 155 160

Asn Leu Tyr Leu Ile Met Glu Phe Leu Pro Gly Gly Asp Met Met Thr  
 165 170 175

Leu Leu Met Lys Lys Asp Thr Leu Thr Glu Glu Glu Thr Gln Phe Tyr  
 180 185 190

Ile Ser Glu Thr Val Leu Ala Ile Asp Ala Ile His Gln Leu Gly Phe  
 195 200 205

Ile His Arg Asp Ile Lys Pro Asp Asn Leu Leu Leu Asp Ala Lys Gly  
 210 215 220

His Val Lys Leu Ser Asp Phe Gly Leu Cys Thr Gly Leu Lys Lys Ala  
 225 230 235 240



His Arg Thr Glu Phe Tyr Arg Asn Leu Thr His Asn Pro Pro Ser Asp  
 245 250 255

Phe Ser Phe Gln Asn Met Asn Ser Lys Arg Lys Ala Glu Thr Trp Lys  
 260 265 270

Lys Asn Arg Arg Gln Leu Ala Tyr Ser Thr Val Gly Thr Pro Asp Tyr  
 275 280 285

Ile Ala Pro Glu Val Phe Met Gln Thr Gly Tyr Asn Lys Leu Cys Asp  
 290 295 300

Trp Trp Ser Leu Gly Val Ile Met Tyr Glu Met Leu Ile Gly Tyr Pro  
 305 310 315 320

Pro Phe Cys Ser Glu Thr Pro Gln Glu Thr Tyr Arg Lys Val Met Asn  
 325 330 335

Trp Lys Glu Thr Leu Val Phe Pro Pro Glu Val Pro Ile Ser Glu Lys  
 340 345 350

Ala Lys Asp Leu Ile Leu Arg Phe Cys Ile Asp Ser Glu Asn Arg Ile  
 355 360 365

Gly Asn Ser Gly Val Glu Glu Ile Lys Gly His Pro Phe Phe Glu Gly  
 370 375 380

Val Asp Trp Glu His Ile Arg Glu Arg Pro Ala Ala Ile Pro Ile Glu  
 385 390 395 400

Ile Lys Ser Ile Asp Asp Thr Ser Asn Phe Asp Asp Phe Pro Glu Ser  
 405 410 415

Asp Ile Leu Gln Pro Val Pro Asn Thr Thr Glu Pro Asp Tyr Lys Ser  
 420 425 430

Lys Asp Trp Val Phe Leu Asn Tyr Thr Tyr Lys Arg Phe Glu Gly Leu  
 435 440 445

Thr Gln Arg Gly Ser Ile Pro Thr Tyr Met Lys Ala Gly Lys Leu  
 450 455 460

<210> 58

<211> 465

<212> PRT

<213> Homo sapiens

&lt;400&gt; 58

Met Ala Met Thr Gly Ser Thr Pro Cys Ser Ser Met Ser Asn His Thr  
 1 5 10 15

Lys Glu Arg Val Thr Met Thr Lys Val Thr Leu Glu Asn Phe Tyr Ser  
 20 25 30

Asn Leu Ile Ala Gln His Glu Glu Arg Glu Met Arg Gln Lys Lys Leu  
 35 40 45

Glu Lys Val Met Glu Glu Glu Gly Leu Lys Asp Glu Glu Lys Arg Leu  
 50 55 60

Arg Arg Ser Ala His Ala Arg Lys Glu Thr Glu Phe Leu Arg Leu Lys  
 65 70 75 80

Arg Thr Arg Leu Gly Leu Glu Asp Phe Glu Ser Leu Lys Val Ile Gly  
 85 90 95

Arg Gly Ala Phe Gly Glu Val Arg Leu Val Gln Lys Lys Asp Thr Gly  
 100 105 110

His Val Tyr Ala Met Lys Ile Leu Arg Lys Ala Asp Met Leu Glu Lys  
 115 120 125

Glu Gln Val Gly His Ile Arg Ala Glu Arg Asp Ile Leu Val Glu Ala  
 130 135 140

Asp Ser Leu Trp Val Val Lys Met Phe Tyr Ser Phe Gln Asp Lys Leu  
 145 150 155 160

Asn Leu Tyr Leu Ile Met Glu Phe Leu Pro Gly Gly Asp Met Met Thr  
 165 170 175

Leu Leu Met Lys Lys Asp Thr Leu Thr Glu Glu Glu Thr Gln Phe Tyr  
 180 185 190

Ile Ala Glu Thr Val Leu Ala Ile Asp Ser Ile His Gln Leu Gly Phe  
 195 200 205

Ile His Arg Asp Ile Lys Pro Asp Asn Leu Leu Leu Asp Ser Lys Gly  
 210 215 220

His Val Lys Leu Ser Asp Phe Gly Leu Cys Thr Gly Leu Lys Lys Ala  
 225 230 235 240

His Arg Thr Glu Phe Tyr Arg Asn Leu Asn His Ser Leu Pro Ser Asp  
 245 250 255

Phe Thr Phe Gln Asn Met Asn Ser Lys Arg Lys Ala Glu Thr Trp Lys  
 260 265 270

Arg Asn Arg Arg Gln Leu Ala Phe Ser Thr Val Gly Thr Pro Asp Tyr  
 275 280 285

Ile Ala Pro Glu Val Phe Met Gln Thr Gly Tyr Asn Lys Leu Cys Asp  
 290 295 300

Trp Trp Ser Leu Gly Val Ile Met Tyr Glu Met Leu Ile Gly Tyr Pro  
 305 310 315 320

Pro Phe Cys Ser Glu Thr Pro Gln Glu Thr Tyr Lys Lys Val Met Asn  
 325 330 335

Trp Lys Glu Thr Leu Thr Phe Pro Pro Glu Val Pro Ile Ser Glu Lys  
 340 345 350

Ala Lys Asp Leu Ile Leu Arg Phe Cys Cys Glu Trp Glu His Arg Ile  
 355 360 365

Gly Ala Pro Gly Val Glu Glu Ile Lys Ser Asn Ser Phe Phe Glu Gly  
 370 375 380

Val Asp Trp Glu His Ile Arg Glu Arg Pro Ala Ala Ile Ser Ile Glu  
 385 390 395 400

Ile Lys Ser Ile Asp Asp Thr Ser Asn Phe Asp Glu Phe Pro Glu Ser  
 405 410 415

Asp Ile Leu Lys Pro Thr Val Ala Thr Ser Asn His Pro Glu Thr Asp  
 420 425 430

Tyr Lys Asn Lys Asp Trp Val Phe Ile Asn Tyr Thr Tyr Lys Arg Phe  
 435 440 445

Glu Gly Leu Thr Ala Arg Gly Ala Ile Pro Ser Tyr Met Lys Ala Ala  
 450 455 460

Lys  
 465

<210> 59  
 <211> 406

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 59

Met Met Glu Glu Leu His Ser Leu Asp Pro Arg Arg Gln Glu Leu Leu  
 1 5 10 15

Glu Ala Arg Phe Thr Arg Ser Leu Cys Ser Met Gly Ser Leu Ser Asp  
 20 25 30

Lys Glu Val Glu Thr Pro Glu Lys Lys Gln Asn Asp Gln Arg Lys Trp  
 35 40 45

Lys Arg Lys Ala Glu Pro His Glu Thr Ser Gln Gly Lys Gly Thr Ala  
 50 55 60

Gly Gly Arg Lys Ile Ser Asp Tyr Phe Glu Phe Ala Gly Gly Ser Gly  
 65 70 75 80

Pro Gly Thr Ser Pro Gly Arg Lys Ser Tyr Gln Ala Ser Glu Lys Asp  
 85 90 95

Lys Phe Thr Glu Gly Arg Asp Arg Gln Arg Lys Met Leu Ala Lys Arg  
 100 105 110

Lys Pro Pro Ala Met Gly Gln Asp Pro Pro Ala Thr Ser Glu Gln Lys  
 115 120 125

Gln Trp Lys Ser Arg Thr Asn Gly Ala Glu Asn Lys Thr Leu Thr Leu  
 130 135 140

Ala Glu Tyr His Glu Gln Glu Glu Ile Phe Lys Leu Arg Leu Gly His  
 145 150 155 160

Leu Lys Lys Glu Glu Ala Glu Ile Gln Ala Glu Leu Glu Arg Leu Glu  
 165 170 175

Arg Val Arg Asn Leu Arg Ile Gly Glu Leu Lys Arg Ile His Asn Glu  
 180 185 190

Asp Asn Ser Gln Phe Lys Asp His Pro Met Leu Asn Asp Arg Tyr Leu  
 195 200 205

Leu Leu His Leu Leu Asp Arg Gly Gly Phe Ser Lys Val Tyr Lys Ala  
 210 215 220

Phe Glu Leu Ile Glu Gln Arg Tyr Val Ala Val Lys Ile His Gln Leu

225		230		235		240
Asn Lys Asn Trp Arg Asp Glu Lys Lys Glu Asn Tyr His Lys His Ala						
		245		250		255
Cys Arg Glu Tyr Trp Ile His Lys Glu Leu Asp His Pro Arg Ile Ile						
		260		265		270
Lys Leu Tyr Asp Tyr Phe Ser Leu Asp Thr Asp Ser Phe Cys Thr Val						
		275		280		285
Leu Glu Tyr Cys Glu Gly Asn Asp Leu Asn Phe Tyr Leu Lys Arg His						
		290		295		300
Lys Leu Met Ser Glu Lys Glu Ala Trp Ser Ile Ile Met Gln Thr Val						
		305		310		315
Asn Ala Leu Lys Tyr Leu Asn Lys Ile Lys Pro Pro Ile Ile His Tyr						
		325		330		335
Asp Leu Lys Pro Gly Asn Ile Leu Leu Val Asn Gly Thr Val Cys Gly						
		340		345		350
Glu Arg Lys Ile Thr Glu Leu Gly Leu Ser Lys Ile Met Asp Asp Asp						
		355		360		365
Ser Tyr Asn Ser Cys Leu Ser Gly Gly Lys Pro Phe Gly Tyr Asn Gln						
		370		375		380
Ser Gln Gln Asp Ile Leu Gln Glu Asn Thr Ile Leu Lys Ala Ala Glu						
		385		390		395
Val Gln Phe Pro Pro Lys						
		405				

<210> 60  
 <211> 749  
 <212> PRT  
 <213> Homo sapiens

<400> 60

Met Glu Glu Leu His Ser Leu Asp Pro Arg Arg Gln Glu Leu Leu Glu
1 5 10 15

Ala Arg Phe Thr Gly Val Gly Val Ser Lys Gly Pro Leu Asn Ser Glu
20 25 30

Ser Ser Asn Gln Ser Leu Cys Ser Val Gly Ser Leu Ser Asp Lys Glu  
 35 40 45  
 Val Glu Thr Pro Glu Lys Lys Gln Asn Asp Gln Arg Asn Arg Lys Arg  
 50 55 60  
 Lys Ala Glu Pro Tyr Glu Thr Ser Gln Gly Lys Gly Thr Pro Arg Gly  
 65 70 75 80  
 His Lys Ile Ser Asp Tyr Phe Glu Phe Ala Gly Gly Ser Ala Pro Gly  
 85 90 95  
 Thr Ser Pro Gly Arg Ser Val Pro Pro Val Ala Arg Ser Ser Pro Gln  
 100 105 110  
 His Ser Leu Ser Asn Pro Leu Pro Arg Arg Val Glu Gln Pro Leu Tyr  
 115 120 125  
 Gly Leu Asp Gly Ser Ala Ala Lys Glu Ala Thr Glu Glu Gln Ser Ala  
 130 135 140  
 Leu Pro Thr Leu Met Ser Val Met Leu Ala Lys Pro Arg Leu Asp Thr  
 145 150 155 160  
 Glu Gln Leu Ala Gln Arg Gly Ala Gly Leu Cys Phe Thr Phe Val Ser  
 165 170 175  
 Ala Gln Gln Asn Ser Pro Ser Ser Thr Gly Ser Gly Asn Thr Glu His  
 180 185 190  
 Ser Cys Ser Ser Gln Lys Gln Ile Ser Ile Gln His Arg Arg Thr Gln  
 195 200 205  
 Ser Asp Leu Thr Ile Glu Lys Ile Ser Ala Leu Glu Asn Ser Lys Asn  
 210 215 220  
 Ser Asp Leu Glu Lys Lys Glu Gly Arg Ile Asp Asp Leu Leu Arg Ala  
 225 230 235 240  
 Asn Cys Asp Leu Arg Arg Gln Ile Asp Glu Gln Gln Lys Met Leu Glu  
 245 250 255  
 Lys Tyr Lys Glu Arg Leu Asn Arg Cys Val Thr Met Ser Lys Lys Leu  
 260 265 270  
 Leu Ile Glu Lys Ser Lys Gln Glu Lys Met Ala Cys Arg Asp Lys Ser  
 275 280 285

Met Gln Asp Arg Leu Arg Leu Gly His Phe Thr Thr Val Arg His Gly  
 290 295 300  
 Ala Ser Phe Thr Glu Gln Trp Thr Asp Gly Tyr Ala Phe Gln Asn Leu  
 305 310 315 320  
 Ile Lys Gln Gln Glu Arg Ile Asn Ser Gln Arg Glu Glu Ile Glu Arg  
 325 330 335  
 Gln Arg Lys Met Leu Ala Lys Arg Lys Pro Pro Ala Met Gly Gln Ala  
 340 345 350  
 Pro Pro Ala Thr Asn Glu Gln Lys Gln Arg Lys Ser Lys Thr Asn Gly  
 355 360 365  
 Ala Glu Asn Glu Thr Leu Thr Leu Ala Glu Tyr His Glu Gln Glu Glu  
 370 375 380  
 Ile Phe Lys Leu Arg Leu Gly His Leu Lys Lys Glu Glu Ala Glu Ile  
 385 390 395 400  
 Gln Ala Glu Leu Glu Arg Leu Glu Arg Val Arg Asn Leu His Ile Arg  
 405 410 415  
 Glu Leu Lys Arg Ile His Asn Glu Asp Asn Ser Gln Phe Lys Asp His  
 420 425 430  
 Pro Thr Leu Asn Asp Arg Tyr Leu Leu Leu His Leu Leu Gly Arg Gly  
 435 440 445  
 Gly Phe Ser Glu Val Tyr Lys Ala Phe Asp Leu Thr Glu Gln Arg Tyr  
 450 455 460  
 Val Ala Val Lys Ile His Gln Leu Asn Lys Asn Trp Arg Asp Glu Lys  
 465 470 475 480  
 Lys Glu Asn Tyr His Lys His Ala Cys Arg Glu Tyr Arg Ile His Lys  
 485 490 495  
 Glu Leu Asp His Pro Arg Ile Val Lys Leu Tyr Asp Tyr Phe Ser Leu  
 500 505 510  
 Asp Thr Asp Ser Phe Cys Thr Val Leu Glu Tyr Cys Glu Gly Asn Asp  
 515 520 525

Leu Asp Phe Tyr Leu Lys Gln His Lys Leu Met Ser Glu Lys Glu Ala  
530 535 540

Arg Ser Ile Ile Met Gln Ile Val Asn Ala Leu Lys Tyr Leu Asn Glu  
545 550 555 560

Ile Lys Pro Pro Ile Ile His Tyr Asp Leu Lys Pro Gly Asn Ile Leu  
565 570 575

Leu Val Asn Gly Thr Ala Cys Gly Glu Ile Lys Ile Thr Asp Phe Gly  
580 585 590

Leu Ser Lys Ile Met Asp Asp Asp Ser Tyr Asn Ser Val Asp Gly Met  
595 600 605

Glu Leu Thr Ser Gln Gly Ala Gly Thr Tyr Trp Tyr Leu Pro Pro Glu  
610 615 620

Cys Phe Val Val Gly Lys Glu Pro Pro Lys Ile Ser Asn Lys Val Asp  
625 630 635 640

Val Trp Ser Val Gly Val Ile Phe Tyr Gln Cys Leu Tyr Gly Arg Lys  
645 650 655

Pro Phe Gly His Asn Gln Ser Gln Gln Asp Ile Leu Gln Glu Asn Thr  
660 665 670

Ile Leu Lys Ala Thr Glu Val Gln Phe Pro Pro Lys Pro Val Val Thr  
675 680 685

Pro Glu Ala Lys Ala Phe Ile Arg Arg Cys Leu Ala Tyr Arg Lys Arg  
690 695 700

Asp Arg Ile Asp Val Gln Gln Leu Ala Cys Asp Pro Tyr Leu Leu Pro  
705 710 715 720

His Ile Arg Lys Ser Val Ser Thr Ser Ser Pro Ala Gly Ala Ala Ile  
725 730 735

Ala Ser Thr Ser Gly Ala Ser Asn Asn Ser Ser Ser Asn  
740 745

<210> 61  
<211> 574  
<212> PRT  
<213> Homo sapiens

<400> 61



Met Glu Ala Ser Leu Gly Ile Gln Met Asp Glu Pro Met Ala Phe Ser  
 1 5 10 15  
 Pro Gln Arg Asp Arg Phe Gln Ala Glu Gly Ser Leu Lys Lys Asn Glu  
 20 25 30  
 Gln Asn Phe Lys Leu Ala Gly Val Lys Lys Asp Ile Glu Lys Leu Tyr  
 35 40 45  
 Glu Ala Val Pro Gln Leu Ser Asn Val Phe Lys Ile Glu Asp Lys Ile  
 50 55 60  
 Gly Glu Gly Thr Phe Ser Ser Val Tyr Leu Ala Thr Ala Gln Leu Gln  
 65 70 75 80  
 Val Gly Pro Glu Glu Lys Ile Ala Leu Lys His Leu Ile Pro Thr Ser  
 85 90 95  
 His Pro Ile Arg Ile Ala Ala Glu Leu Gln Cys Leu Thr Val Ala Gly  
 100 105 110  
 Gly Gln Asp Asn Val Met Gly Val Lys Tyr Cys Phe Arg Lys Asn Asp  
 115 120 125  
 His Val Val Ile Ala Met Pro Tyr Leu Glu His Glu Ser Phe Leu Asp  
 130 135 140  
 Ile Leu Asn Ser Leu Ser Phe Gln Glu Val Arg Glu Tyr Met Leu Asn  
 145 150 155 160  
 Leu Phe Lys Ala Leu Lys Arg Ile His Gln Phe Gly Ile Val His Arg  
 165 170 175  
 Asp Val Lys Pro Ser Asn Phe Leu Tyr Asn Arg Arg Leu Lys Lys Tyr  
 180 185 190  
 Ala Leu Val Asp Phe Gly Leu Ala Gln Gly Thr His Asp Thr Lys Ile  
 195 200 205  
 Glu Leu Leu Lys Phe Val Gln Ser Glu Ala Gln Gln Glu Arg Cys Ser  
 210 215 220  
 Gln Asn Lys Ser His Ile Ile Thr Gly Asn Lys Ile Pro Leu Ser Gly  
 225 230 235 240  
 Pro Val Pro Lys Glu Leu Asp Gln Gln Ser Thr Thr Lys Ala Ser Val

	245		250		255
Lys Arg Pro Tyr Thr Asn Ala Gln Ile Gln Ile Lys Gln Gly Lys Asp	260		265		270
Gly Lys Glu Gly Ser Val Gly Leu Ser Val Gln Arg Ser Val Phe Gly	275		280		285
Glu Arg Asn Phe Asn Ile His Ser Ser Ile Ser His Glu Ser Pro Ala	290		295		300
Val Lys Leu Met Lys Gln Ser Lys Thr Val Asp Val Leu Ser Arg Lys	305		310		315
Leu Ala Thr Lys Lys Lys Ala Ile Ser Thr Lys Val Met Asn Ser Ala	325		330		335
Val Met Arg Lys Thr Ala Ser Ser Cys Pro Ala Ser Leu Thr Cys Asp	340		345		350
Cys Tyr Ala Thr Asp Lys Val Cys Ser Ile Cys Leu Ser Arg Arg Gln	355		360		365
Gln Val Ala Pro Arg Ala Gly Thr Pro Gly Phe Arg Ala Pro Glu Val	370		375		380
Leu Thr Lys Cys Pro Asn Gln Thr Thr Ala Ile Asp Met Trp Ser Ala	385		390		395
Gly Val Ile Phe Leu Ser Leu Leu Ser Gly Arg Tyr Pro Phe Tyr Lys	405		410		415
Ala Ser Asp Asp Leu Thr Ala Leu Ala Gln Ile Met Thr Ile Arg Gly	420		425		430
Ser Arg Glu Thr Ile Gln Ala Ala Lys Thr Phe Gly Lys Ser Ile Leu	435		440		445
Cys Ser Lys Glu Val Pro Ala Gln Asp Leu Arg Lys Leu Cys Glu Arg	450		455		460
Leu Arg Gly Met Asp Ser Ser Thr Pro Lys Leu Thr Ser Asp Ile Gln	465		470		475
Gly His Ala Ser His Gln Pro Ala Ile Ser Glu Lys Thr Asp His Lys	485		490		495

Ala Ser Cys Leu Val Gln Thr Pro Pro Gly Gln Tyr Ser Gly Asn Ser  
500 505 510

Phe Lys Lys Gly Asp Ser Asn Ser Cys Glu His Cys Phe Asp Glu Tyr  
515 520 525

Asn Thr Asn Leu Glu Gly Trp Asn Glu Val Pro Asp Glu Ala Tyr Asp  
530 535 540

Leu Leu Asp Lys Leu Leu Asp Leu Asn Pro Ala Ser Arg Ile Thr Ala  
545 550 555 560

Glu Glu Ala Leu Leu His Pro Phe Phe Lys Asp Met Ser Leu  
565 570

<210> 62

<211> 351

<212> PRT

<213> Homo sapiens

<400> 62

Met Gly Asn Ala Pro Ala Lys Lys Asp Thr Glu Gln Glu Glu Ser Val  
1 5 10 15

Asn Glu Phe Leu Ala Lys Ala Arg Gly Asp Phe Leu Tyr Arg Trp Gly  
20 25 30

Asn Pro Ala Gln Asn Thr Ala Ser Ser Asp Gln Phe Glu Arg Leu Arg  
35 40 45

Thr Leu Gly Met Gly Ser Phe Gly Arg Val Met Leu Val Arg His Gln  
50 55 60

Glu Thr Gly Gly His Tyr Ala Met Lys Ile Leu Asn Lys Gln Lys Val  
65 70 75 80

Val Lys Met Lys Gln Val Glu His Ile Leu Asn Glu Lys Arg Ile Leu  
85 90 95

Gln Ala Ile Asp Phe Pro Phe Leu Val Lys Leu Gln Phe Ser Phe Lys  
100 105 110

Asp Asn Ser Tyr Leu Tyr Leu Val Met Glu Tyr Val Pro Gly Gly Glu  
115 120 125

Met Phe Ser Arg Leu Gln Arg Val Gly Arg Phe Ser Glu Pro His Ala  
130 135 140

Cys Phe Tyr Ala Ala Gln Val Val Leu Ala Val Gln Tyr Leu His Ser  
145 150 155 160

Leu Asp Leu Ile His Arg Asp Leu Lys Pro Glu Asn Leu Leu Ile Asp  
165 170 175

Gln Gln Gly Tyr Leu Gln Val Thr Asp Phe Gly Phe Ala Lys Arg Val  
180 185 190

Lys Gly Arg Thr Trp Thr Leu Cys Gly Thr Pro Glu Tyr Leu Ala Pro  
195 200 205

Glu Ile Ile Leu Ser Lys Gly Tyr Asn Lys Ala Val Asp Trp Trp Ala  
210 215 220

Leu Gly Val Leu Ile Tyr Glu Met Ala Val Gly Phe Pro Pro Phe Tyr  
225 230 235 240

Ala Asp Gln Pro Ile Gln Ile Tyr Glu Lys Ile Val Ser Gly Arg Val  
245 250 255

Arg Phe Pro Ser Lys Leu Ser Ser Asp Leu Lys His Leu Leu Arg Ser  
260 265 270

Leu Leu Gln Val Asp Leu Thr Lys Arg Phe Gly Asn Leu Arg Asn Gly  
275 280 285

Val Gly Asp Ile Lys Asn His Lys Trp Phe Ala Thr Thr Ser Trp Ile  
290 295 300

Ala Ile Tyr Glu Lys Lys Val Glu Ala Pro Phe Ile Pro Lys Tyr Thr  
305 310 315 320

Gly Pro Gly Asp Ala Ser Asn Phe Asp Asp Tyr Glu Glu Glu Glu Leu  
325 330 335

Arg Ile Ser Ile Asn Glu Lys Cys Ala Lys Glu Phe Ser Glu Phe  
340 345 350